

SEPTEMBER 1955

The Review of Metaphysics

A PHILOSOPHICAL QUARTERLY

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The Reality of Propositions
Causality, Will and Time

Freedom and Existence: A Symposium
Plato's Mathematical Imagination
Jung's Thought and Influence
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Theses on Presuppositions
Plato's Theory of Sensation, I
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Summaries and Comments

\$1.75

VOLUME IX, No. 1 • ISSUE No. 33

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ARTICLES

THE REALITY OF PROPOSITIONS

FREDERIC B. FITCH

I wish to begin by asserting that there are such things as propositions. My reason for making this assertion is that any denial of it would already be a proposition, so I do not see how it is possible to maintain that there are no propositions without at the same time actually presenting a proposition, and thereby refuting the contention that there are no propositions. In other words, the proposition that there are no propositions is itself a conclusive bit of evidence against its own truth, since it is itself a proposition.

Most traditional systems of metaphysics do not seem to assert that there are such things as propositions. This appears to me to be a defect in such systems, especially as each such system is really itself a class of propositions or a single complex proposition.

Of course, by a proposition I do not mean a string of symbols, since, in particular, a system of metaphysics is not a string of symbols but rather something expressed by symbols. Also, by a proposition I do not mean a judgment, since, again, a system of metaphysics is not a judgment but rather something that can be the object of a judgment. We can make a judgment as to whether a particular system of metaphysics is true or false, but our judgment of the system of metaphysics is not the same as the system of metaphysics itself.

Other examples of propositions would be scientific theories, Einstein's general theory of relativity, for example; also special consequences of such theories, for example, the proposition that mass increases with velocity. There are also propositions about values, propositions about religion, and propositions about specific objects such as this room. Systems of metaphysics, viewed as propositions, are simply the most general propositions. Scientific theories are somewhat less general than systems of metaphysics, but they are still very general as compared to propositions about specific objects. Scientific laws are also propositions and

are perhaps less general than the theories that imply them, but more general than the actualities that conform to such laws.

This is one universe, though it has many parts and many sub-universes. To say that propositions are not really in the universe because they belong to some subuniverse, such as the universe of language or the universe of mind, is an unreasonable attitude. If propositions are in any sense in *any* part of the universe, then they *are* in the universe.

Propositions should not be confused with those elements of language which are used to express propositions, nor should they be confused with those mental operations, such as judgments, which deal with propositions without being propositions themselves.

Even when it is granted that there are such things as propositions, it is usual to give them somewhat secondary metaphysical importance. This is sometimes done by use of some or all of the following doctrines, which I do not accept, but which I now state in order to criticize briefly:

1. The doctrine of the non-existence of false propositions. According to this doctrine the only propositions are true propositions.

2. The doctrine of the non-existence of necessarily false propositions. According to this doctrine the only propositions are possibly true propositions. There are no necessarily false propositions, though there are contingently false propositions.¹

3. The doctrine of the mind-dependence of propositions. According to this doctrine, propositions exist only as associated with minds, so if at some period the universe was without minds, then at that period it also lacked propositions.²

4. The doctrine of variable truth-values. According to this doctrine propositions vary from true to false and from false to true with the passage of time.

¹ This view, or one very much like it, is held by Paul Weiss in "The Self-Contradictory," *Philosophical Review*, XLVII (1938), pp. 531-33. See also Aristotle, *Topics*, 104b21.

² Sympathy toward this doctrine has been expressed to me by Brand Blanshard in private conversation.

5. The doctrine of the coming-into-being of propositions. According to this doctrine there are (or "will be") propositions which are (or "will be") about the future, and which do not now have being but which will have being at some future time.³

I will consider these doctrines in reverse order, starting first with the last of them. There is something very odd about having propositions come into being, because it is by way of propositions themselves that we express the fact of coming-into-being in the case of whatever entities can correctly be said to come into being. Suppose it were possible to regard propositions as coming into being and consider, for example, the proposition that asserts that some propositions will come into being tomorrow.⁴ Are we to say that this proposition itself will not come into being until tomorrow, because only by tomorrow will the conditions exist that can guarantee its truth? But we may wish to assert this proposition or others like it, and how can we assert a non-existent proposition? For this reason the doctrine that propositions come into being seems to me untenable.

Those who advocate the coming-into-being of propositions would probably argue that propositions about particular substances or events cannot have being before those substances or events themselves have being. But this argument depends on the fallacy that if a proposition has being at a particular time, then being is also conferred at that time on whatever the proposition mentions or is about. But this fallacy is evident if we consider that there are propositions about the totality of electrons, and the fact that these propositions have being now does not imply that all electrons have being now. So propositions can be about future entities without themselves being future entities. But nevertheless the contrary prejudice remains, and many people will no

³ From conversations with Charles Hartshorne I have learned that he holds some such view as this.

⁴ As Arthur Burks has pointed out to me, we might even wish to make some much more specific prediction about the future. For example, I might wish to assert that a totally new shade of crimson will appear in a flower in my garden at 5 A.M. tomorrow. Since according to this doctrine no such proposition exists as yet, my freedom to make such an assertion or prediction would be denied to me.

doubt continue to feel that if propositions about the future are granted being in the present, then the future is itself somehow injected into the present and no provision is made for genuine futurity and genuine novelty. But I cannot agree with this for reasons I have just given, and it seems to me that propositions about the future can have present being without bringing the future into the present, and that this view not only allows genuine novelty in the universe but is the view we *must* hold if we wish to assert propositions about such novelty.

I would therefore conclude that propositions are essentially timeless entities. It is true that our judgments may take place in time, and thus propositions, as objects of judgments, may get an apparent location in time. But this is really only the time location of the activity of judging and not of the proposition judged. Propositions can also get an apparent location in time by having conferred on them the time location or locations of various entities mentioned in them. But this is not really a time location of the proposition itself, as I have already argued. Consider, for example, the proposition that live dinosaurs will someday be discovered in Africa. This proposition has an apparent present location, since it is the object of various mental activities occurring in the present. It also has an apparent location in the future owing to the fact that it is concerned with future events. But actually both of these locations are only apparent. Like all propositions it is essentially timeless, and essentially spaceless too.

Consider next the doctrine of variable truth-values, according to which propositions change from true to false or conversely with the passage of time. It is known that a "proposition" that seems to change in this way can always be regarded as being two or more different propositions which differ from each other in time reference, some of which are true and others of which are false. In other words, when the time references of propositions are made explicit, it is seen that propositions do not really change their truth-values with time after all. It is possible to introduce propositions which have *indefinite* time references and then claim that such propositions do change their truth-values with the passage of time. But the process of making the time reference indefinite is essentially the process of replacing a constant by a variable and

of replacing a proposition by a propositional function. We do not need to invent a special sort of proposition that changes its truth-value with time. Propositional functions whose independent variable is a time variable already have the requisite property.

Another doctrine which I would like to criticize is the doctrine of the mind-dependence of propositions. Of course idealistic types of philosophy would make everything dependent on mind. If anything at all is to be regarded as independent of mind, however, propositions, especially true propositions, seem eminently qualified. If truth itself is in any important sense autonomous and not a mere construct of mind or mere appendage of mind, and if truth consists essentially of the true propositions that compose it, then these true propositions are likewise independent of mind. The laws of physics, for example, are true propositions, and these laws held before there were any minds like ours in the universe; and when human minds and all life has disappeared from the earth, the laws of physics will still be valid. Thus at least some true propositions appear to be clearly independent of mind. To deny that there were any true propositions before there were any minds would amount to denying, in particular, that there were any laws of physics before there were any minds.

But if true propositions do not in general depend on minds, it would seem very odd that false propositions should depend on minds. This would mean that true propositions would already be in existence, but false propositions would have to wait for minds to construct them or somehow give rise to them. False propositions about the world before it contained minds would not exist at the time their falsity is most relevant, but they would instead exist at some later time. It would seem to me that either all propositions are mind-dependent or else none are. But some are clearly not mind-dependent, so I cannot believe that any are.

Next I wish to consider the view that there are no such things as necessarily false propositions. This view seems, in effect, itself to assert that a certain proposition is necessarily false, namely the proposition that there are necessarily false propositions. But then this view in effect refutes itself by asserting that its contradictory is necessarily false, and so presenting an example of a necessarily false proposition. On the other hand, if this view is

phrased so as to assert that it is merely a *contingent* truth that there are no necessarily false propositions, then this objection cannot be raised against it. In this case the proposition that there are necessarily false propositions is itself being treated as merely contingently false and not as itself necessarily false. But then a merely contingent truth is being asserted and it is hard to see what grounds, if any, this contingent truth can have. We can argue for the truth of a contingent proposition only by using induction, but how can we use induction to establish that there are no necessarily false propositions? On the contrary, experience presents us with lots of propositions which at first are not known to be self-contradictory, but which are subsequently found to be self-contradictory and hence necessarily false.

The more radical view that holds that there are no false propositions at all is also a view that in effect contradicts itself. It amounts to asserting that the view that there are no false propositions is itself a false proposition.

The conclusion of this discussion is therefore that there are propositions, including both false and necessarily false propositions, that propositions are not mind-dependent, do not change their truth-values with time, and do not come into being with the passage of time. Propositions are eternal entities, and their eternality is not diminished or undone by the fact that many propositions are about temporal entities, about facts of change, and about facts of coming-into-being. It is only by an illegitimate transfer of temporality from the subject-matter of propositions to propositions themselves, or from other temporal entities to which propositions bear various relations, to propositions themselves, that propositions are wrongly assigned a temporal status.

Propositions, attributes and relations are fundamentally non-temporal entities, though some of them may involve mention of or reference to temporal entities, and may be related in various other special ways to temporal entities.

The world can be understood only by use of propositions, since every explanation and every doctrine is really a proposition, or a class of propositions or a relation among propositions. If propositions themselves change and come into being and go out of being, then there are no stable explanations and no stable doc-

trines, and everything is a hopeless irrational mess. But this whole doctrine of the instability of propositions would itself, then, be just another unstable proposition, changing as it asserts other propositions to do, from true to false or from false to true, or even popping out of existence and then popping into existence again unexpectedly. Such an unstable doctrine is one which no one could trust or believe.

But once it is granted that propositions are not of this peculiar nature, it is seen that the world can be viewed as a rational system, and that propositions and classes of propositions serve to embody the factors of permanence and law and reliable structure that infuse the universe. This rational view of the universe does not exclude novelty, contingency, or free will, nor (what is equally important) does it exclude general truths about novelty and contingency or general principles which express the nature of free will.

In formulating a rational conception of the universe by use of propositions that express general principles, we have great need for precision and clarity in the handling of such propositions. In metaphysics there is no reason why we should not demand the same degree of scientific precision that we demand in such sciences as physics and biology, or the even greater precision which is occasionally achieved in science when some part of a science is formalized by use of symbolic logic. The special theory of relativity, as it applies to moving particles, has recently been formalized in this way.⁵ J. H. Woodger has formalized parts of biology.⁶ Some psychological theories have been formalized with the help of symbolic logic.⁷ Systems of metaphysics should also be formalized, and when this is done I am sure that the whole subject will become clearer and less open to confusion and misunderstanding.

The process of formalization may be regarded as a process

⁵ H. Rubin and P. Suppes, *Transformations of Systems of Relativistic Particle Mechanics* (Palo Alto, Cal., 1953).

⁶ J. H. Woodger, *The Axiomatic Method in Biology* (Cambridge, 1937).

⁷ C. L. Hull et al., *Mathematico-Deductive Theory of Rote Learning* (New Haven, 1940).

that is concerned primarily with symbols.* Some combinations of symbols are chosen as axiom combinations. Rules are then specified for transforming these combinations into theorems, that is, into theorem combinations. The theorems are thus obtainable by use of more or less mechanical rules from the axioms. In such formalizations it is clear what the formalized theory asserts, at least in the sense that we know which combinations of symbols are being asserted as theorems. But unless we specify semantical rules that assign meaning to these combinations of symbols, the formalization itself is of little help to us. The semantical rules relate our symbols to concepts, so that the formalized theory gains genuine conceptual content instead of being a skeleton of symbols without the flesh of meaning.

In other words, we eventually have to talk about concepts anyhow. We cannot restrict ourselves to talking just about uninterpreted symbols. Since this is the case, an alternative approach is to deal directly with concepts in the first place, but to do it with all the precision and finesse we would use in talking about uninterpreted symbols. In this way we can have a formalization that gives us a system of concepts directly, instead of indirectly through an excursion into symbols and semantical rules.

These two approaches to formalization are practically equivalent, and more or less interchangeable. I choose the second one because it gets us to concepts more directly, and concepts are the important thing.

I will not attempt in this paper to formalize a particular, detailed system of metaphysics, though I hope to do so at some later time. Elsewhere I plan to publish soon a formalization of a general framework within which all formalizable systems of metaphysics are, in a sense, already present as entities dealt with in the system.² This general formalized framework could itself be

* R. Carnap, *Foundations of Logic and Mathematics* (Chicago, 1940).

² This formalization in pre-publication form and under the title, "Tentative Formalization of a Metalogic for Systems of Metaphysics," was distributed at the meeting of the Metaphysical Society of America at the University of Chicago on March 25, 1955, when the present paper was read as part of a symposium on logic and metaphysics.

regarded as a very general system of metaphysics. Or we might call it a general metalogic within which, apparently, can be defined and compared all systems of logic and all systems of metaphysics, and indeed all systems of empirical science as well, at least as regards their formal structure.

This metalogic, incidentally, avoids the hierarchy of types and the hierarchy of metalanguages, with the serious difficulties that these hierarchies entail.¹⁰

Any comparison of various systems of logic and various systems of metaphysics presupposes a metalogic within which these systems are definable and in which various relations between them can be expressed. Some such metalogic is always tacitly and informally employed in discussions about the nature of logical systems and metaphysical systems. My purpose has been to formalize such a metalogic instead of leaving it in an informal and inexplicit state. In particular, the subsystem N of the total metalogic is a logic in which all systems of logic and all systems of metaphysics apparently are definable. The metalogic extends beyond the subsystem N by containing axioms and rules for negation, disjunction, conjunction, and quantification, while the subsystem N contains only sufficient axioms and rules to enable it to handle what might be called "recursively enumerable" classes and relations,¹¹ together with other classes and relations derivable from the latter by means of what is sometimes called "Carnap's rule."¹²

¹⁰ See Appendix C of my book, *Symbolic Logic* (New York, 1952).

¹¹ These are the same classes and relations that J. R. Myhill would call "constructive" in accordance with the terminology of his paper, "Some Philosophical Implications of Mathematical Logic," this journal, VI (1952), pp. 165-98. See especially p. 191.

¹² The term, "Carnap's rule," was first used by B. Rosser in "Gödel Theorems for Non-Constructive Logics," *Journal of Symbolic Logic*, II (1937), pp. 129-37. This rule was previously used by Hilbert, according to Hao Wang. The form of this rule used in system N is the same as the rule for A on p. 30 of my paper, "A Definition of Negation in Extended Basic Logic," *Journal of Symbolic Logic*, XIX (1954), pp. 29-36. The system N indeed is closely similar to the system *K'* of the latter paper, and the classes and relations definable in N are essentially the same as those definable in *K'*. The sort of negation definable in *K'* is not really negation in the full sense, according to my present view.

These classes and relations definable in N seem to include among themselves all possible systems and seem to be classes and relations that are definable solely in virtue of the *forms* of their members or relata. I am also inclined to think that, conversely, all classes and relations definable solely in virtue of the forms of their members or relata are definable in N . It seems appropriate to regard systems as themselves being classes or relations definable solely in virtue of the forms of their members or relata. In practice we can treat a system as being the class of its own theorems. In defining a system we specify the forms of the propositions that are to be considered theorems of the system, so in this sense a system is defined in virtue of the forms of its members.

The reason that logical principles concerned with negation, disjunction, conjunction, and quantification are not included in the system N is because such principles go beyond mere considerations of form. Thus we omit from N such principles as excluded middle and double negation. This is perhaps reminiscent of the intuitionistic rejection of these principles as far as the construction of classes is concerned. Let us consider more closely why it is that negation is irrelevant in defining classes that are to be defined solely in virtue of the forms of their members. We might define a class in such a way that it would contain all propositions of the form $(p \supset p)$. But we could not regard a class as having been defined solely in virtue of the forms of its members if we specified that it contained all propositions *not* of the form $(p \supset p)$. This is because we cannot know by mere inspection, in the case of some propositions, that they are not of the form $(p \supset p)$. We would have to know all valid identities and see that none of these identities identified any of the propositions in question with a proposition of the form $(p \supset p)$.

Let us summarize all this once more by saying that the subsystem N is so constructed that within it are apparently definable those and only those classes and relations that can be defined solely in virtue of the forms of their members or relata. Let us call such classes and relations "structural classes" and "structural relations." Systems of logic and systems of metaphysics are structural classes that have propositions as members. Some scientific theories are best regarded as being structural relations between

propositions," rather than as structural classes of propositions.

The wider system of metalogic contains various principles that seem logically valid, such as principles concerned with negation and quantifiers, even though these principles cannot be used in defining structural classes and structural relations. The subsystem N is concerned with structural classes and structural relations and hence with systems in general. The rest of the metalogic is concerned with negation, conjunction, disjunction, and quantification. It could be further extended to include such modal concepts as logical necessity and logical possibility.

The metalogic, and in particular the subsystem N, also deals with infinitely many modes of togetherness. In this way provision is made for all the sorts of togetherness that might be assumed in any particular system of metaphysics. For example, in Whitehead's metaphysics there is a special sort of togetherness according to which a prehension is together with an actual occasion as a component of that actual occasion. There is another sort of togetherness according to which one actual occasion is together with another actual occasion as being causally efficacious with reference to the latter. Two elements of a contrast are together in the contrast by way of a special sort of togetherness. And so on.

These examples perhaps suffice to suggest how the metalogic could be transformed into a formalized system of metaphysics by the addition of appropriate axioms concerning various kinds of togetherness.

Yale University.

¹¹ See my paper, "Justification in Science," in *Academic Freedom, Logic and Religion* (Philadelphia, 1953). Arthur Burks in his paper in the same volume claims that my position does not avoid the "paradoxes of confirmation." Actually my position was especially designed to avoid these paradoxes and can be shown to do so.

CAUSALITY, WILL AND TIME

NATHANIEL LAWRENCE

I

THE problem of the freedom of the will, in its most usual form, actually relies upon two assumptions: (1) that nature is to be conceived mechanically, i.e., under the metaphor of "machine," and (2) that "nature" embraces all that there is, or at least includes man in all of his aspects. Given the two assumptions we now wish to ask, "Is the human will free?" The answer should be quite clear. If the metaphor of the machine is adequate to nature in that the parts of nature, however complicated, stand in sets of invariant relationships to one another in the same way that parts of an *ideal*¹ machine *would be related* to one another, and further if all of man is included in "nature," then men do not act independently. All human decisions can, on principle at least, be analyzed into their causal components.

If nothing of man is outside nature, and nature is essentially a machine, then man is not free. The conclusion is analytic and virtually trivial. Any quibbling about the conclusion can arise only through ignoring one of the postulates, or openly attacking it.

Much classical philosophy simply does not accept postulate (1). For one thing, there is some question as to whether the modern notion of a "machine," as the term is most frequently encountered, has any counterpart in pre-Christian Greek thought at all. Aristotle, for instance, considered the making of human artifacts as a mere extension of natural processes. The machine would thus be like nature (having, however, the ends for which it comes into being external to itself) but hardly vice-versa. One can imagine a learned man of Aristotle's time confronting us:

¹ It is important to notice that the machine itself has to be idealized, since in an actual machine the invariance of the mechanical behavior is always relative to some practical margin of error or "tolerance."

"You call us anthropomorphic in our conception of the Gods. However you adapt a portion of natural fact to your own ends; the finished result you call a machine, and then you use this result as a model for understanding nature." Aristotle's nature is like a "doctor doctoring himself"; Plato's world soul is problematically immanent in its created world. Nature is not inanimate matter in motion. Nature is alive. The problem of the freedom of the will doesn't occur, because postulate (1) never is conceived.

No Christian philosophy is bothered by the problem of the freedom of the will in its most common form. The reason that this is so is that the Christian view of man discards postulate (2), or rather, cannot accept it. It may verge on the acceptance of (1) and thereby become plunged into controversy of its own about freedom of the will. Thus the period of flourishing of the extreme form of mechanistic determinism in the theory of nature coincides considerably with the heyday of the Puritans. But of course this is no mere coincidence. However, the most gloomy Calvinist did not see in man's unconditional dependence on God the same thing at all which his non-theist counterpart saw in man's total enmeshment in nature. To be sure, man's will is radically defective, and this by moral inheritance from Adam. Men can not "choose" the good because they can not see it. And this moral pall lies on all human action, fatally tincturing it. But there are no autonomous and immovable laws of nature. God's grace, which is the expression of his love, can fall on any man, and this grace will illuminate his life, liberating him. The Puritan casts a hopeful look at the text: you shall know the truth and the truth will make you free. As a mere natural being man is not only not free; he is doomed. But his nature is susceptible of supernatural overhaul.

The great portion—if not all—of the views which reject the determinism of the will could, I believe, be grouped under the rejection of either one or the other of the above two postulates. In what follows I should like to ignore postulate (2) and consider postulate (1).

The principal weakness of this postulate, I suspect, is an assumption which underlies it, namely that our basic conception of cause is that which is derived from the examination of nature.

This is a cardinal blunder. It is, for one thing, quite non-empirical. The first conception we have of cause is surely that of causal agency, that is, of an agent in action. This is true of men both as individuals and in societies. The animism of earlier philosophies, sophisticated survivals of which are to be discovered in Plato and Aristotle, the animism of the young child, and that observable in the religious practices of so-called contemporary primitives, all seem to argue for the genetic primacy of the notion of cause as being that of agency, where agency is conceived under the metaphor (at least) of human purpose. Aristotle's "doctor" is a case in point. The savage palliates the spirits of nature, and the child complains that the nasty old wagon tripped him. The only difference between the child, indeed, and the furious adult who kicks his stalled automobile, as if it were a wayward mule, is that the latter will readily admit that his actions are founded on impulsive postulates with regard to natural fact which he would, in a calmer moment, deny. The notion of mechanical agency, of *action without an actor*, is a very sophisticated one, not readily come by, either in the history of peoples or in the development of a single individual. Whether or not it is the correct one is temporarily irrelevant.

What I wish to urge is that the notion of cause is genetically—from the point of view of its origins—the notion of agency, that is of the activity of a more or less purposeful agent. The immediate and primary acquaintance with the root conception of cause is through awareness of oneself as volitionally effective. The story of the modification of this conception is the history of the development of the consciousness of nature. The angry adult often exposes the simple origins of his conception of cause.

When the notion of *impersonal mechanical agency* supervenes upon the root conception, certain modifications appear that result in the vague and highly figurative notion of physical "force," "energy," and the like. This notion of energy is a qualification proper to the *derived* view of mechanical natural causation, and is not appropriate to the *fundamental* conception of agency from which the mechanical conception is derived. If, then, we return to the basic conception of purposeful agency, it is entirely bootless to demand its credentials in terms of "energy" or "force" involved,

since these are among the characteristics which differentiate the mechanical notion from its ancestor. The lack of use or limited use of the idea of "force" in the conception of the will as causal does that conception no harm. Descartes' speculations about the pineal gland were needless. Hume's criticisms² are wide of the mark.

The mistaken idea that our primary conception of cause is that of empirical mechanical agency leads us to another blunder, closely related to the above blunder and more directly pertinent to the problem of the freedom of the will. Here the classical figure is Hume. Hume was, of course, quite right in showing that the necessity of so-called causal connections is indemonstrable. But the failure in the attempt to demonstrate the necessity of alleged causes in observed nature is only a catastrophe to the conception of cause because that conception itself is framed in terms of the metaphor of the machine. Necessary connection plays no part in the judgment of the will as causally effective. If I will to move my paralyzed hand—to choose a favorite example from Hume—and can not, it is not that the category of cause and effect is inapplicable but that it is negatively applied. The agency, the will, *ought* to be effective, but in this case it isn't. The inapplicability of a category is quite different from its negative application. I do not come from such an experience convinced that the will has no causal function but only that there are limits—some of which are idiosyncratic—to its effectiveness. Hume's example is briefly engaging; because it chooses a situation that is not normal, but its informative value is not different from Mohammed's discovery about mountains: that there is no use in willing them to come to you.

Such a failure does not require that we deny the role of cause to the will. Again, the will, conceived as a unitary cause, may have a variety of effects. No failure or variation is possible for the *natural* cause. A variation in the consequence of a natural "cause" usually constitutes grounds for depriving it of its status of cause (for those events which it formerly preceded or abutted). The reason for this situation is fairly obvious. The effort to dis-

² E.g., those in the *Treatise*, ed. of 1777, Bk. I, Pt. III, Sec. XIV.

cern regularity in the order of nature frequently leads to a conception of nature under the metaphor of a machine. The machine has no whims, purposes, or options. Mechanical causation must be manifest as necessary connection because machines always work in the same way, according to the principles and parts built into them. There is no place here to evaluate this metaphor, nor would it be fair to assign it unequivocal status in Hume's thought. Hume himself, of course, speculates on the metaphors of both "plant" and "animal" for the natural universe, in the *Dialogues Concerning Natural Religion*. However, the point to be made is that, even allowing the mechanical metaphor unlimited application in the realm of natural fact, we are under no obligation to transfer its peculiar aspects of necessary connection or absolute regularity (if these be different from one another) to the causality of the will. Volitional causality, whether or not it is the parent idea of cause, is a demonstrably distinct one. Just as energy and force belong to the machinery of mechanical causation, so also does the notion of unexcepted regularity. But in the consciousness of volition nothing makes us more aware of the—in a common use of the term—*causal* character of volition than a *failure* of the will to realize a purpose or its successful realization of a new purpose.⁹

A simple consideration will illustrate the above remarks nicely. In natural causation, to be sure, if I believe I have discovered causal efficacy, I expect that efficacy to be manifest in the future. If it is not, then I deny what I formerly affirmed, namely that I have observed an instance of causal efficacy. But now suppose I do a difficult handstand, solve a mathematical problem, or gain the rapt attention of my students. If in the future I fail in these, do I doubt that my will was causally efficacious in the past? Not for a moment. The *conceived* past in the observation of nature is one in which an alleged cause can be exposed

⁹ It will be noticed that great clusters of problems have been bypassed in order to make a little progress with the problem in hand. For instance it is very debatable whether or not one should allow the term "cause"—for philosophical purposes—to range over a universe of discourse including objects, events (Hume treats of both indiscriminately), and "faculties" or "functions."

as an impostor, upon the appearance of a single refuting instance. The *directly experienced* past which includes the awareness of volitional achievement cannot be altered by the future course of events. Conversely, past and present volitional efficacy guarantee no repetition in the future. Could Tensing and Hilary climb Everest again, even under "identical" weather conditions and over the "same" terrain?

If at this point it is urged that this argument is engaged in comparing incomparables, namely physical events and/or objects as causes, with wills or acts of will, the response is that this may well be so. The "will" as unitary or as some vaguely conceived "function" is very problematic indeed. Yet if anything is designated by these vague terms it is at least that area from which—however obscurely—the conception of cause appears.

To summarize: The denial of the freedom of the will—in its non-religious form—rests on (1) making nature a machine and then (2) placing man in the machine. But there seems to be good reason to suppose that the primary conception of cause arises from the awareness of volitional effectiveness, that this root notion is then transferred to the explication of the way events are related in observable nature, under the qualifications of *impersonality* and machine regularity. This is a complicated derivative idea whose salient features are not applicable to the will conceived as causal. The "necessities" of nature, if such there be, do not impugn the freedom of the will.

How does the above discussion stand with respect to our two postulates? It does not really attack the first postulate; rather it attacks the conjunction of the two. Choose the conception of nature as a machine, if you like; you will reap many profits. But then, do not insert man into nature so conceived. Or, conversely, place man in nature, by all means; but then, watch the metaphors in your explication of nature, to be sure that they are broad enough to include not only observed fact but felt experience. Datum-wise, the "existence" of the self is very different from the "existence" of the world "out there." If we are successful in bringing the two ideas of existence into one inclusive conception, it will not be by committing the solipsist fallacy of supposing that the "out there" is really only a part of the "in

here," nor by committing the converse fallacy—which often takes the form of mechanism—of supposing that the "in here" is merely a part of the "out there."

II

One of the principal reasons that our conception of cause is so often centered in the idea of impersonal mechanism is that the examination of nature is partly stimulated by the desire to control the future. The identification of natural causes renders nature more manipulable, or at least foreseeable. We want surety that the future will be like the past.

Without having to enquire in any detail what "natural" causes are, we may say that if there are natural causes the future will be like the past. An attack on either the existence or the demonstrability of natural causes is often thought to be an attack on the existence or demonstrability, as the case may be, of a future which will be like the past. In view of his remarks on chance and "our ignorance of the real cause of any event" * it seems unlikely that Hume's scepticism carried him beyond some proposition such as this: "Since the presence of causes in nature is *indemonstrable*, so also is any justification of the proposition that the future will be like the past." This is, of course, quite different from arguing that there *are* no causes in nature. But, even then, either Hume is virtually committing the fallacy of denying the antecedent, or else his underlying assumption must be put in this way: "If *and only if* we can demonstrate that there are natural causes can we demonstrate that the future will be like the past."

I have tried to show that the basic conviction about natural causes here is that they operate within a "machine." Withdraw the metaphor of the machine and you withdraw, I believe, the basis for the usual attack on the demonstrability of the proposition that the future will be like the past. The conclusion that we cannot demonstrate that the future will be like the past is based on a dispensable premise. This is, of course, not to say that it is

* *Enquiry*, end of Sec. V and beginning of Sec. VI.

false, but rather that it is unfounded. In the remainder of this section I should like to show that it is also false.

What is expected of the world by someone who claims that the future will be like the past? Certainly not that the future will be or is wholly predictable. Hume's remarks on eggs would not startle the average breakfaster greatly. In fact, the way the average breakfaster looks at the unpredictability of eggs is that you can predict it. Variations in eggs will tend to *confirm* his suspicion that the future will go on being like the past, whether or not the confirmation is legitimate. To be sure, if the salt shaker that he used to salt his eggs yesterday dribbled out ink today or a white crystalline solid that had no taste at all, the effect would be jolting, but his general conviction about the future would, I think, be unshaken. Let us stir up his world a bit more. Let the salt shaker dribble out ink which on contact with his eggs changes them to roses. And let the roses be flaming hot to the touch, so that the rose-image associations are all contraverted. If we continue to tilt his world through a series of disorders, we may threaten his sanity. He may approach the future with a frightened wariness which shows that he doesn't think the future will be *so much* like the past as it had been formerly. What I am trying to suggest is that the appearance of surprises—to be more serious let us say surprises in the history of science—does not challenge the conviction that the future will be like the past. Nor do I think that the infrequency of these surprises accounts for their ineffectiveness against our conviction about the future. Rather I believe it is that what we *mean* by "the future will be like the past" is, in a sense, not subject to experiential refutation, although it is dependent upon experience for its original formulation.

As a rule, those who urge that there is no way in which experience can warrant the proposition that the future will be like the past also indicate no way in which experience could lead us to abandon it.* We might be tempted to suppose, then, that the

* I have never been able to understand why theses which can not be "empirically verified," but also can not be empirically disconfirmed, should lose their claim upon human intelligence, especially where their

proposition holds a peculiar place in our theories of experience, unlike—for instance—the proposition that there are craters on the far side of the moon, but *also* unlike the proposition that there is one God in three persons. Let us see what we can do to scramble the world in such a way that “the future will be like the past” can be torn down.

Suppose we send our hapless breakfaster careening through space, with a kaleidoscope of sensory data of a completely novel sort. Or let the data be even qualitatively distinct in kind from the familiar data of the five senses. Let us throw everything in the nature of a report from the outside world into utter disorder, random chaos. Let the breakfaster be thrown back upon apparently “internal” resources alone for any concept of familiarity. *We must still grant him some minimal order in order to grant him conscious experience*, if it be only his own ordering awareness through some time of some datum, which then takes up its ordered place in his memory.

What I should like to suggest is that the idea of the concrete lapse of time always entails the idea of order, and that this order is based upon similarity. The more precise we become about the natural world, the more evident this fact; yet the more we investigate the origins of subjective time, the more difficult it is to discover the basis of similarity and order. What the ordered regularities are that give rise to the sense of time when the external world is cut off is very difficult to assess. The man in solitary confinement and the dungeon victim are said to lose all sense of time; yet I think that what is meant is that they lose their

explanatory power is high. The claim that they are meaningless not only rests on an (admittedly) narrow interpretation of “meaning,” but is itself not liable to confirmation. When this charge is made, the defenders of the claim modestly reply that such a definition of meaning is merely a “resolve,” a “decision,” or the like, and in itself neither true nor false. The piracy of the term “meaning” thus is supposed to render legitimate the caricature of the terms “true” and “false.” The inevitable outcome, moreover, is to limit the term “experience” also to a degree which would have shocked even the classical empiricists, who were much more wary of dogmatism than were their successors. The whole *procedure* is one which evidently rests its appeal on nonempirical grounds, but does not make clear what these grounds are. But such considerations can not be pursued further, since they carry us away from the point in hand.

grasp on the external cues which exhibit the passage of objectively measurable time. The drowning man is said to have a visual playback of his life projected into his consciousness, and dreamers are supposed to accomplish the entire dream in the brief period between "waking" and "sleeping." In both these cases we have railway sidings of para-consciousness which, when they return to the main line, exhibit a time metric that is incommensurable with that of "objective time." But I doubt that in either case the paraphenomena could be temporally ordered except through recurring periodicities, at the very least those involved in the more or less self-conscious sorting of data.

The further we get from the external natural world, the more difficult it is to seize upon the regularities which give rise to the sense of time. In the external world, however, the situation is quite clear-cut. The motion of the clock's hands, the audible click and beat of the chronometer, the regular procession of the particles of sand through a small aperture, these things are all devices whereby we isolate from the great flow of experience those regularities in which the future is like the past. Clocks are not always so explicit, nor are they always devices. The diurnal cycle, that of the seasons, the phases of the moon, are all ancient and honorable clocks, and they wouldn't have functioned as clocks if the future had not been like the past. Where aspects of the future, as it matures into the present, are not like the past, the items involved are not usable to indicate temporal passage in any clear way. Beans sprout in any time between two days and two weeks. Here the future will only be very roughly like the past. Crickets, on the other hand, chirp so regularly that their periods can be used as temperature indicators.

Fortunately we do not have to go further than the external world of natural fact to compass the usual remarks about the resemblance of the future to the past. We need no fantastic breakfaster drawn into the reclusion of his own mind to save his sense of time. Hume's followers are victims of Newton's conception of absolute time. To be sure, whenever Hume deals with time as time, he steadfastly denies that it is "possible for time alone ever to make its appearance, or be taken notice of by the

mind." * He further insists that "time cannot make its appearance to the mind, either alone, or attended with a steady unchangeable object, but is always discover'd by some *perceivable* succession of changeable objects."⁷ When Hume deals with time in terms of the "future," however, he seems to be thinking of an onrushing empty medium, capable of being filled with any orderly or disorderly collection of objects and occurrences. This metaphysical monstrosity lost its usefulness, even to physical science, around the turn of the present century. (Actually, as Hume himself affirms, no such empty medium is to be encountered.) Moreover, the awareness of time is not a mere awareness of a succession of changeable objects. A certain regularity in the change is fundamental to the awareness of time. This dependence of abstract time upon concrete regularity is increasingly more apparent as we demand greater and greater precision in temporal measurement. The perfect clock is invariant under all conceivable conditions. Its future and past are, theoretically, in perfect conformity.

To try to summarize these remarks with directness, if someone asks, "Will the future be like the past?" the answer is, I think, "If it's the future, it will be." (1) Plainly perfect conformity of phenomenal future to phenomenal past is not what is asked for. At the one extreme of perfect conformity, we have a similarity of future to past which no one expects, and which no experience lures us into expecting. (2) At the other extreme, complete dissimilarity in every respect is really possible only in pen-and-paper philosophy, for, if it be taken seriously it undermines the conception of consciousness itself in a *reductio ad absurdum* to end all absurdities. (3) Presumably, however, no one is concerned with such extremities, but rather with observed temporal sequence. (4) What is neglected is that "future" means "future time"; that our conception of time arises from the awareness of order, and that this order is not mere succession but successions of similarities, as our refined conceptions of abstract time indicate. (5) Devised clocks demonstrate clearly the conformities essential

* *Treatise*, Bk. I, Pt. II, Sec. III, par. 7.

⁷ *Ibid.*

to the conception of time. Natural clocks do so less obviously and the mechanisms of psychological clocks are much more obscure. We rarely have to depend upon the latter alone. (6) The crucial point is that *nowhere does time appear merely as an abstraction from succession*. Only in Wonderland do we get the Cheshire grin without the Cheshire cat. Only in the pages of the philosophers do we get time without the similar sequences from which it is abstracted. In real life, in the experience to which empiricism so proudly points, this fantastic "time" is not to be found. It is the similarities, the conformities in succession, from which we derive the abstract consideration of time, and indeed which serve as the backdrop against which other less orderly sequences can be given temporal specification. (7) The conception of future time requires the conception of a continuity of at least some sets of events which conform to past events. To ask if the future will be like the past is to neglect the empirical origins of our conception of time and the conformal character of those origins which give rise to our conception of time.

III

Although the problem of the conformity of the future to the past is often associated with the topic of cause and effect, there is no necessity of its so being. Even if the above arguments were completely coercive, and the proposition that at least some of the future must conform to the past were finally established, it would not at all follow that there had been natural causes in the past, that they were necessary, or that they would be present or necessary in the future. If one could be assured of necessary causes in nature, then indeed the future would be like the past, but the converse conditional, of course, does not hold.

On the other hand it seems unlikely that any genuinely empirical treatment of the idea of cause can either ignore the topic of the causality of the will, or reduce it to an opaque form of natural mechanical causality.

The so-called "empirical" conception of causation is marked by a peculiar irony: the idea of the will as cause, upon which

this conception is at least partly dependent, it has either ignored or distorted. The reliable conformity of the future to the past, a topic which is capable of relatively distinct treatment, it has made a central consideration.

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FREEDOM AND EXISTENCE: A SYMPOSIUM

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I

UNQUALIFIED human freedom transcending all obstacles and frustrations would, I suppose, call for a God-like control of our environment. On the other hand, we will all admit that a human being may maintain freedom of a sort in a plague or an earthquake or while living under a tyrant.

For Socrates and Plato such freedom is the arch-achievement of human life—as also in the philosophy of Spinoza. As Socrates loved to argue, getting what seems good to us is one thing, knowing what we really want is another. It is another thing to act over a considerable period with this knowledge clearly in mind and effectively directing our conduct. In so far as we may succeed in doing so, we are internally free. It is freedom, so conceived, that we wish to relate to the idea of human existence.

In recent years, the word *existence* has become something of a touchstone, and the connotations borne by the word come close to boxing the compass of philosophical theory. Only a few years ago Santayana, while distinguishing between essence and existence, argued that all existing things are transient members of a flux, wherein they are "determined by external relations and jostled by irrelevant events" (*Skepticism and Animal Faith*, p. 42). For Santayana, "a mutual externality or *Auseinandersein* is characteristic" of existing things (*Realm of Matter*, p. 11). One can, however, readily escape from such picturesque materialism by turning to the equally picturesque logistic notion of existence. Here we find Quine, who does not like the word *existence*, arguing that "to be is, purely and simply, to be the value of a (bound) variable" (this journal, II [1948], p. 32). There are also, I suspect, still many who would prefer to think of existence in Kantian terms as the proper object of experience, taken in opposition to the object of systematic but unverified speculation.

Santayana, Quine, and Kant all seem to be thinking primarily of "it is" rather than of "I am" or "you are". Descartes stands as an alternative with his notion of existence as an unquestionable immediacy, both logical and experiential, offered to us in the *Cogito ergo sum*. Indubitably *we* exist even when questioning our existence, or in more general terms, *we* exist when *we* exercise judgment. Here we are reminded of the scholastic ontology that emphasizes the *act* of existence. These last two views slightly resemble the ultra-modern position of the so-called existentialists for whom *existence* is interpreted as the life of a subject—the self-maintaining self-characterizing act of assertion symbolized by the *I am*. In this context, existence implies authenticity and originality. To exist is to take place in an environment—thus to exceed sheer subsistence or formal being—but it is at the same time to stand forth against this environment, to distinguish oneself within it, as the words *ex* and *sistere* would indicate. Such existence is a source of influence rather than a channel or vehicle. Finally, such existence is reflexive, its influence reverts upon itself. It is self-transforming or transcending.

Without attempting to reconcile these several views, let us point out that *to exist* may refer to very different situations, varying with the chosen subject of the verb. So the $\sqrt{2}$, Mt. Olympus, Fido or Towser, Mr. So-and-so, and the first person pronoun will sharply qualify the meaning of the existential verb that can follow each of them. Now, if we try to generalize beyond all such instances, the result is a sheer terminus of abstraction without further quality. Such a sheer or bare existence can hardly enter the consciousness of man, as Hegel and Whitehead (*Modes of Thought*, p. 227) both have noted. If we fail to recognize this, we are in danger of reducing our thought to an Eleatic monotone. Existence can be fruitfully described only as we recognize *what it is that exists*.

Now, since our chosen topic is "freedom and existence," we must turn our attention especially toward the existence of the human self. This self is distinguished from other entities in that its existence is a matter of degree. In most instances, existence seems to be a matter of *yes* or *no*. A dim light or a dull noise exists quite "as truly" or "as much" as its more intense counterpart.

But this does not apply to the human soul which may possess only a fluctuating "self-possession" or identity. We need no very subtle analysis to make this evident. We are often, as we say, not wholly ourselves in dreams, in moments of anger, pain or fear, or when lost in a rigorously repetitive routine, say in an office or factory or on a military parade-ground—or again when we stand abashed before the clever sarcasm of an unscrupulous cross-examiner, or when we clumsily attempt, from motives of *snobisme* or from some misguided allegiance, to play a role for which we are not fitted. Our self-hood may be even more gravely corrupted by a tendency to forget or ignore important features of our environment or aspects of our own conduct. Popular idiom recognizes all this. Accordingly, when asking forgiveness of our friends or even when merely apologizing for hasty or thoughtless words we often use the expression, "I was not myself." So long as the implication stands that I should have been myself, such apology is often recognized as acceptable, and our moral insight is not disturbed by the apparent contradiction in terms.

At this point the mutual relevance between our internal freedom and our existence makes itself felt. Our task is not to perceive this connection, which seems lively enough to most of us, but rather to interpret it properly.

Here one might be tempted to argue simply that I am myself in so far as I am internally free and that accordingly only the free self fully exists. *Existence* then becomes an ideal or limiting concept imperfectly realized or approached in our lives, and there is then no difference between existence and a Platonic essence. But we can hardly describe *our* existence as an obscured or distorted ideal or essence. After all, Plato himself spoke of the soul as an agent, and there is a difference between our sense of agency and a sense that we reflect or manifest an ideal. *We may, however, describe the existence of the self as agency that more or less clearly recognizes such an ideal and is concerned for its realization.*

In dreams, in fatigue, or in pain, I am not myself. This is not because I lack internal freedom but because in such confusion I have only a very obscure view of the ideal of internal freedom. Our concern for such freedom and its expression in decision con-

stitute what we mean by the *existence* of the self. In the sequel, let us defend this proposition.

In the first place let us point out that our concern for internal freedom must be interpreted broadly so that the term includes more than the popular moralist would usually assign to it. The spirit of internal freedom is responsibility. The free man may answer to himself and to others for his decisions and commitments. Such freedom extends beyond the field of human relations usually described as subject to moral principles. The notion of responsibility applies to the technician, the artist, the scientist, the teacher, and the man of affairs. It extends even further and cuts more deeply into the life of the spirit. An effort—a persistent effort—to achieve responsibility is present in the very activity whereby we maintain our self-consciousness as individuals. Just as the artist attempts to maintain a consistent responsibility or integrity in his control of appearances, the man of character in his relations with people, the scientist or logician in his affirmation of propositions, so the conscious individual at all times must be in some measure concerned to maintain a consistent and responsible interpretation of his perceptions. He must, so to speak, answer for what he sees; and *his consciousness is this very answering*. As a recent writer has put it, *respondeo ergo sum*.

One recalls Royce's pedagogically brilliant interpretation of the Kantian unity of apperception in his *Spirit of Modern Philosophy*: "a sane man differs from a man with a maniacal flight of ideas, or from a patient in delirium, most in this, that the sane man, at every moment, looks; as it were, out of this moment to his larger self, and links this moment with the past and future, while the other's soul, as Kant would say, is filled with a *Gewühl von Erscheinungen*, with a mass of flighty seemings. The sane man continually *collects himself*, as we ordinarily express it [and] binds this to that . . ." (p. 128).

In so far as I maintain a minimum of what Royce here calls *sanity*, I can through my own experience *answer* for the objects of my perception—not of course in every detail, but sufficiently to identify them as relevant to the events of my past and of my future. We might even say that the sensuous and affective manifold often presents itself to us as a complex interrogative. Here

is not chaos but togetherness, even cosmos. How then does this manifold hang together? Except as we can answer this question for ourselves we are baffled, and the continuity of our consciousness is broken. We may equate Royce's sanity with an existential concern for consistency, continuity, identity. Such concern need not be limited in its application to the consistency of the more commonplace objects of perception. Let us quote A. N. Whitehead:

I find myself as essentially a unity of emotions, enjoyments, hopes, fears, regrets, valuations of alternatives, decisions—all of them subjective reactions to the environment as active in my nature. My unity—which is Descartes' 'I am'—is my process of shaping this welter of material into a *consistent pattern of feelings*. The individual enjoyment is what I am in my role of a natural activity, as I shape the activities of the environment into a *new creation*, which is myself at this moment; and yet, as being myself, it is a continuation of the antecedent world. If we stress the role of the environment, this process is *causation*. If we stress the role of my immediate pattern of active enjoyment, this process is *self-creation*. If we stress the role of the conceptual anticipation of the future whose existence is a necessity in the nature of the present, this process is the *teleological aim* at some ideal in the future. This aim, however, is not really beyond the present process. For the aim at the future is an enjoyment in the present. (*Modes of Thought*, p. 228).

Whitehead is willing to employ the difficult and, at least superficially, paradoxical notion of self-creation. He describes a creative emergence of unified self-hood. Some readers may be reminded of Plato's argument in *Philebus*. Perhaps here Whitehead is offering one of those footnotes to Plato which he believed constitute the life of Western philosophy. Out of an *Apeiron*, an infinite in the older Greek sense, there is taking shape a finite or definite substance. Here is, as Plato puts it (*Philebus* 26), a *genesis*, or becoming, towards *ousia* or true being. Here is self-realization, if not, indeed, self-creation. Certainly such growth is not the unfolding of a ready-made pattern or the rearrangement of a given number of fixed elements.

The activity of self-realization is centered about insight, choice, and restraint, whereby we commit ourselves toward the pursuit of ends, deliberate concerning means and, at the same time, avoid self-defeating extremes of conduct. This whole activity may be presided over by what we might call an existential reflection,

beautifully allegorized in Plato's myth of Er, whereby we recognize that our choices characterize ourselves. The souls in Plato's myth survey many sample lives and are told to choose among them: ". . . But in none of these lives is there anything to determine the condition of the soul, *because the individual soul must needs change its character according as it chooses one life or another*" (*Republic* X, 618; Cornford tr.).

Let us be so bold as to adopt Plato's great allegory to our immediate purposes. The wise man—not perhaps the wily Odysseus but the Socrates who offered the wonderful prayer at the end of the *Phaedrus*—this wise man will, I think, choose a way of life that seems to him likely to secure the possibility of further enlightened and responsible choice. In other words, his choice will be guided by his concern for internal freedom. But he will not seek a static finality of consciousness, as Sartre would say, an *être pour soi et en soi*. He will not, in other words, dream of freeing himself from all alternatives at one stroke, i.e., of ridding himself of the need of further responsibility. Only a philosophical megalomaniac, lost in a hopeless passion, would pursue such an ideal of security. Freedom stands as the ideal culmination of our existential consciousness. It must, however, even if once achieved, be continually earned anew. It can never become, so to speak, a matter of automatic habit.

There is another error that we will do well to avoid. Although we describe freedom as the very quality of man, that in pursuit of which we qualify as human beings, we must not think of it as a general feature of human nature. We are not born free, except in the sense that we inherit certain legal rights. We may not "be forced to be free," as Rousseau thought; nor are we "condemned to be free," as Sartre teaches. Nor again, are we "incorrigibly free," as the distinguished American philosopher, Robert L. Calhoun, has recently suggested. Even the creative power latent in our reflective self-consciousness does not guarantee freedom. I thus find myself in reluctant disagreement with Mr. Calhoun, who writes in his recent *Religion and Freedom of Thought* (1954):

The primary roots of man's need for intellectual freedom lie in the fundamental fact that he actually is free—as observer, inquirer, critic

of his environment and of himself If a man were as completely contained in the present as a stone or a tree appears to be, it is inconceivable that he would be able thus to extricate himself from his immediate situation—even from the network of his own present impulses—so as to move in thought between present and past or future, between actuality and what is possible or valuable, better or worse. If this sort of freedom to think were removed from a human being, he would forthwith become as a tree or a mollusk and no longer a human being at all. Moreover, not only is a man thus incorrigibly free to think. He is capable also of accompanying thought with intelligent action, directed to the revision of his environment or of his own behavior patterns. The demand for intellectual freedom, therefore, is not merely a demand that strong human impulses attain satisfaction. It is even more fundamentally a demand that artificial restraint of one sort or another shall not be permitted to contradict the primary reality of human existence (p. 26).

Although I am in deepest sympathy with the objective of this essay, I cannot accept Calhoun's argument. Man, we are told, is "incorrigibly free to think" and this freedom constitutes the "primary reality of human existence," which can nonetheless be "contradicted" or, I suppose, impeded. However, "if this sort of freedom to think were removed from a human being, he would forthwith become as a tree or a mollusk and no longer a human being at all." Now, it is implied, man does not cease to be human and *ergo*, as human, he does not cease to be free. He is in fact incorrigibly free, as, I suppose, he is taken to be incorrigibly human.

But, after all, in what sense am I incorrigibly human? Certainly not in any way that guarantees a full measure of existence to the human self. Mr. Calhoun has used an unfortunate figure of speech. If I lose my grip and forfeit my self-possession or moral identity, I do not become, alas, as a tree or a mollusk. Only in the pleasant vagaries of classical mythology are wicked people mercifully changed into trees or fishes, but we are all in real danger of violating our human responsibility and caricaturing our existence. We may indeed display considerable ingenuity in an effort to escape responsibility. Our human existence is often undermined and perforated by our persistent efforts to forget or ignore both past and future and to dismiss the implications of our preferences and decisions. A whole system of moral values may indeed be based, as by Aristippus, upon just such an effort, for-

tunately rarely wholly successful, to rid oneself of responsibility, and to live wholly for oneself and in the present moment. The restless imagination of which Mr. Calhoun writes so eloquently is, indeed, indispensable to our freedom. It is the very matrix wherein our freedom is engendered. But it is not in itself freedom, nor are we inevitably free.

We may argue that our existence is actually heightened by the recognition that our freedom, even our concern for freedom, is often forfeited. It is through moral suffering that we become aware of our limitations and our lapses and so more truly appreciate moral health. Recognition of our own past irresponsibility, when, baffled and ashamed, we exclaim, "What could I have been thinking of?" constitutes a glimpse of non-being. Our ignoring of consequences, our failure to recognize a point of view, stand out as incredible lacunae and we become deeply concerned to make clear to ourselves and to others that these lapses are not necessarily or characteristically ours. In contrition and repentance we repudiate the non-being with which our past has been corrupt. In one sense, what we mean by our existence is just this: the repudiation, if not the elimination, of the non-being that stands between us and a fully responsible freedom. A genuine or authentic commitment is always more than an overt physical act or verbal gesture. It is the act as interpreted by the agent: the interpretation is our answering for the act: it is our responsibility. Here the importance of language can hardly be overestimated. A plausible texture of sentences may conceal, even from the speaker, the darkest lacunae of moral judgment.

The human self is incarnate in the world, not exclusively in the human body and its overt behavior, nor exclusively in the stream of consciousness, but, besides in these, also in the texture of spoken self-expression and of communication. Bearing as it does a concern for responsibility, the self is deeply involved in the play of question and answer. Except perhaps at its most primitive level, the self is intersubjective in scope and it lives in and through language or communication. Hegel recognized this in his *Phenomenology* when he wrote of moral action and of conscience, thus initiating a movement now familiar to us through the writings of our contemporaries:

When any one says he is acting from conscience, he is saying what is true, for his conscience is the self which knows and wills. But it is essential he should say so, for this self has to be at the same time universal self. It is not universal in the content of the act: For this content is *per se* indifferent on account of its being specific and determinate. The universality lies in the form of the act. It is this form which is to be affirmed as real: The form is the self, which as such is actual in language, pronounces itself to be the truth, and just by so doing acknowledges all other selves, and is recognized by them (p. 663).

Existential consciousness may take many forms and what we have called "internal freedom" may assume many guises in the life of an individual or of a culture. This is especially true because this ideal is often present to an ethical imagination rather than to a Socratic consciousness intent upon definition. A study of the forms that freedom has taken as it stands before existential consciousness would amount almost to a philosophical commentary upon the history of ideas. Hegel's *Phenomenology* again comes to mind at once. His dialectical survey begins with the primitive consciousness of self-assertion, through which the warrior declares himself and seeks domination over those who oppose him. But the warrior's ideal is more subtle than this: it includes a sense that life must be risked and that death and even defeat are always present as possibilities toward which there is a proper attitude of fearlessness and contempt, in themselves a negative freedom.

Then there is the consciousness of the bondsman who surrenders his responsibility to his master: his freedom is absorbed by his loyalty. And again the stoic who, no longer confident of his master's wisdom, clings to the ideal of the competent and responsible public servant who minds his own business in both the positive and negative sense of the expression. Also the so-called contrite consciousness of the medieval Christian whose freedom is supported by his sense of his own finitude and dependence upon a supreme authority. And many others, including even a satirical appreciation of the scholarly or scientific specialist.

It is one of the functions of the philosopher's dialectic to protect us from the tendency common to every culture and way of life to define its idealism too sharply, thus failing to recognize possible manifestations of freedom and modes of existence. Thus in choosing the terms *internal freedom and responsibility* we have

tried to describe the objective of our existential consciousness in as general a way as possible, in order to avoid narrowing the theory of such consciousness to but one of its manifestations.

Existential consciousness may perhaps best be translated into the language of recent philosophy by describing it as that consciousness attending the emergence of a substantial soul that seems paradoxically to collect itself, being at once final and efficient cause. Such development is at all stages precariously poised and the free man will often recognize his debt to fortunate or propitious circumstance. In such recognition existential consciousness may often assume a religious aspect. The religious man will in many cases envisage his ideal of freedom as an imaginative picture, even sometimes finding its embodiment in a beloved or holy personality upon whom the existence of our selfhood may then be said to depend.

But whether the interpretation maintained by the existential consciousness be religious or secular in mode of expression, we find always within it a recognition of the human individual as a center of becoming within which the ultimate values are manifest. To consider the human individual merely as a means to an end is to caricature or violate our sense of human existence, to mistake selfhood for thinghood and to impoverish our world.

Perhaps all this is merely another way of saying that the living being only gradually attains self-hood and only gradually acquires an ego-centric or reflective integrity of its judgments and evaluations. Such progress is not without its reversals and catastrophes. Hence, the existence of the self is precarious. This is true even on the higher levels of such development where the nascent or conrescent self may be well aware of its situation, its achievement, and its shortcomings.

A few years ago epistemologists had much to say about the "egocentric predicament." For our purposes in this essay we might prefer the expression "egocentric achievement"—although when we recognize how heavily our self-maintenance is beset with difficulties and how frequently it is challenged by circumstances, we may admit that our achievement is at the same time a genuine predicament, from which some people may long to escape.

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II

FRANCIS C. WADE, S. J.

There is clearly a difference between not existing and existing, and man indicates his knowledge of this difference in his affirmations and negations. But once a man has affirmed that this thing exists, he is quite aware that both he and others are waiting to hear him say something further. We expect something further because existence is itself not known as a static character. Merely continuing to exist, a triumph no doubt over the privation of non-being, is no triumph for the exister. Just as no change in a being that can change is radically unintelligible, so hanging around is basically pointless to the one who hangs around unless something happens eventually. Nothing of course ever happens to possibilities in their state of possibility. But existers, these we expect to be up and doing, even if the doing is little more than the resistance a chair exerts when I stumble over it in the dark. Unsustained heavy objects that did not fall would not be existing as heavy; and fish eggs not striving to become fish would cease to be as fish eggs. Existence from this viewpoint is a source of activity; which activity in some way extends and completes the exister. And when we say what an exister does and how it acts, we think we have succeeded in describing an exister much more satisfactorily than when we state merely that it exists.

Some existers are and act without, as far as we can see, their knowing the actions they perform. Their actions take place in such set patterns suitable to the actors that knowledge would have nothing to do even if it were present. Generally this is the world of existers below animals. Animals certainly guide some of their actions by their knowledge. The trained retriever knows what he will find and bring back to his master. What animals give no sign of doing is of being fully conscious of themselves as agents. Man precisely as man is fully conscious of himself as agent and consequently of his actions as extensions of himself. This is why man has a special name for himself, the "I," and others like him he calls "you's," whereas all other existers are lumped under the name of "it's." And where there are "I's" and "you's," the rela-

tion of activity to existence takes on a new dimension. It is no longer enough that activity more or less automatically flows from existence, whether with or without knowledge. The "I" who is up to knowing himself and his actions, is up to making his actions an extension of himself. He is no longer satisfied to have actions worked out for him; he wants to get into the act. Certainly, the companions of Odysseus had no complaints against the goddess Circe on the score that they were not allowed to act like pigs. Pigs never had it better. Their complaint was that they could not run their own show, and this restriction was suffocating because it negated everything they knew about themselves.

Freedom thus appears as central to man's awareness of his human existence. To be thwarted in his activities is to be restricted in his existence as a free being. When we emphasize the restrictions of freedom, we are considering the externalization of free decisions. When we consider the cause of the freedom which is restricted, we are face to face with the free act proper. Not that the distinction between internal and external freedom is between two types of freedom, as we distinguish between historical and philosophical writing. The external act is free, when it is free,¹ because the internal act was freely decided. Both in causality and dignity the internal act is more properly free, and the external act is derivatively and secondarily free. For that reason we shall direct our consideration to internal freedom.

Here it will help to take an example in which freedom is present. The example I propose is a thoroughly inconsequential act in the life of any man, and for that I beg your indulgence; but the example has the singular advantage of not being cluttered up with important and distracting consequences. Let these be the facts. I stand before you with my arm extended. I can either raise my arm, or lower it, or move it to one side, or do nothing about it. Then I freely decide to raise it and I continue in that decision for say a minute before I get around to the external act of raising my arm. This decision, which is an example of internal freedom, has three distinguishable moments or stages. The first

¹ When the external act is not free, it is owing to causalities other than the causality of inner freedom.

is my being faced with alternatives or possibilities; the second stage is the actual decision to raise my arm; the third stage is continuing or holding to that decision. Having made this distinction, the question now is: Which of these three stages is most central to freedom?

Between stage two, the act of deciding, and stage three, continuing in the decision, the candidate for our vote is easy to determine. To hold to a decision is not a new act; it is the old act as continuing to be. The only difference is one of priority and dependence, i.e., to continue in a decision, the decision must first be. And since the third stage cannot be actual unless the second is and remains actual, the act of decision is obviously more central than continuing in the decision. Exclusion of the third stage leaves us with two candidates: being faced with alternatives, and the act of decision.

On the surface one might argue as we did just now and say: unless a man be faced with alternatives, he could never have anything to decide freely. The conclusion would then be that the core of freedom consists in being faced with choosable alternatives. But this conclusion has the weakness of getting in its own way.² If freedom consists in having alternatives to choose from, then the *having* of alternatives (the number of alternatives is irrelevant here) is the moment we are freest. And if this is true, every time a man chooses, the less free he becomes. Less free, since any choice takes one alternative and excludes its opposite. A man freely chooses to marry; he freely excludes the alternative of remaining single while being married. Thus by acting freely he becomes less free. On this showing the only way to enjoy

² One who so defines freedom is left with the problem of proving that he is free. He cannot appeal to consciousness as evidence of his freedom, as J. S. Mill points out. "To be conscious of free-will, must mean, to be conscious, before I decided, that I am able to decide either way. Exception may be taken *in limine* to the use of the word consciousness in such an application. Consciousness tells me what I do or feel. But what I am *able* to do, is not a subject of consciousness. Consciousness is not prophetic; we are conscious of what is, not of what will or can be" (*Examination of Sir William Hamilton's Philosophy*, Vol. II, pp. 283-84). Knowledge that we will be free in the future is not proof that we *are* free.

freedom fully is never to make choices. There may be occasions when we suspect that if we make a certain choice, we will be sorry. But the sorrow will arise from what we choose, not from choosing. Moreover, the settled policy that every choice lessens freedom offers a pretty bleak prospect either for living or for understanding human life.

The way out of this position is to see that being faced with choosable alternatives is not the posture of a fully free man, but that of a man *able* to be free. The awareness of merely having alternatives to choose from means only that a man *knows* he can be free. It may in fact be annoying when he merely knows alternatives, because merely to know alternatives is not to choose one. What a man considers crucial to his freedom is making one of these choices *his* choice. Here freedom begins to appear in its full reality as an actual commitment of self to one line of action. Possible commitments neither make nor break us; but actual commitments—here we show our real hand.

What I have been saying is that stage two, actual decision, is the core of freedom and that stage one, being faced with choosable alternatives, is a lesser and inferior freedom. The obvious sense in which stage one is a lesser freedom is that it is incomplete and ordered to something beyond itself, a kind of half-way house for one who has not yet exercised his freedom. A power to choose whose only resource is to stare interminably at possible choices would not quite be a power to choose. Moreover, there would be no possible choices to stare at unless there existed some power up to making actual choices. Notice that I did not say, "some power up to making possible choices into actual choices." These are not, it seems to me, the facts: 1) there are possible choices around; 2) the mind knows some of these; 3) the will then adds actuality to one of these possible choices.³ Were these

³ The following problems arise for one who thinks the facts are as stated above: 1. Possibilities prior to actuality must have some ground other than existents, and no ground can be found in possibility other than "possible to exist." 2. A will that chooses after all the knowledge is in would itself have to be a knowing faculty in order for man to know what he is doing. 3. If mind and will are so related, reason is only a tool for desire and man is only a clever animal with a reason in place of claws and teeth.

the facts, choosing would be nothing more than adding actuality to fully definite possibilities, much like painting shellac on a wood surface to preserve the qualities already there. Rather, these, it seems to me, *are* the facts: 1) there is a man up to choosing, i.e., a being whose impulse operates under rational knowledge; 2) with a view to choosing he sets his mind to consider lines of action, none of which guarantees its being chosen; 3) the man prefers one action in knowing it as best for him here and now and he knows the best for him in his desiring of it here and now. Thus choice is desirous knowledge or knowing desire. Choice can also be called causative knowledge or knowing causality, in the sense that it is the cause doing the knowing.

To make clear this position on free choice requires a consideration first of action in general and then of free action.

Wherever action appears, there also we expect to find an agent and something done. Action that achieves nothing whatever would be thoroughly unintelligible as action. By the same token, action that was not and now is without an agent would be thoroughly unintelligible, since it would arise out of nothing. The point is not that we know the agent of every action, or that we can indicate every action's achievement. What we do know quite well is that an action, if it is to be intelligible, must be in a middle position between agent and achievement.⁴ And one thinks he has begun to understand an action when he points out its agent and its achievement. One better understands action when he sees why this action looks back to this agent and forward to this achievement. That is, one better understands when he finds that the plurality of agent, action, achievement is held together by an intelligible unity. At this point one begins to see that agent, action, achievement are simply three stages in the existence of an intelligible content. Achievement is seen as prefigured in action; action is seen as prefigured in the agent. We are not at all surprised when a body falls, or a stomach churns food, or a fish egg becomes a fish, or a man does what he intends to do. And we

⁴ Between the agent and achievement in the free act there are two actions, viz., the action of choosing and the action of accomplishing. But both of these actions are in the middle position between an agent faced with alternatives and his achievement.

are not surprised precisely because we can see such actions are in a sense already in their agents.

Now we must attempt to say in what sense action is in the agent. Actions have two determining factors about them. One is the kind of action it is; the other is the doing of this action. Thus the growth of the fish egg is of the sort that, barring interference, will issue in fish rather than fowl. This factor we shall call the intelligible contour of the action. Besides this intelligible contour there is in any action the up and doing of this action, rather than the not doing it. This second factor we shall call the exercise of action. If action is prefigured in the agent, then both of these factors must be prefigured. That is, the agent must in some way possess both the intelligible contour and the exercise of action. We expect, and find, that the fish egg is structured in such a way that its action of growth is growth into a fish. This actual structure is the agent's equivalent of the intelligible contour of its action. We also expect, and find, that the fish egg is itself not indifferent to growth, but is ready and straining to get its growing done as soon as its environment permits. This impulse to growth is the agent's tendential equivalent of exercise of the action of growing. And what we have said of the fish egg and its action can be said of the stomach and its churning and the heavy body and its falling.

For purposes of considering free actions, as opposed to actions set by nature, it will help to turn our analysis around. That is, begin with the free agent, as is actually the case in the real order where agents first are and then act. In common with all agents, man must prefigure his action in structure and impulse. But since he is a knowing being, the structure for his properly human actions must be found in his knowledge, and the impulse must be found in his desire, i.e., his impulse operating under knowledge. Both these determinants of human nature are intentional. By that I mean that one knowledge, as knowledge, is different from another by reason of what the knowledge is about, just as one desire, as desire, is distinct from another by reason of what is desired. Thus these powers are achieved by something other than themselves. This other we shall call object and define it as that which can achieve a power. In some philosophical discuss-

ions, object is equivalent to thing. Here I am using the term "object" in its most formal sense, as that which is presented to or thrown up to a power that can respond to it. Under this precise formal aspect, object is that which can achieve a power.² So defined, object is conceived as prior to action, as that into which action will issue. Also, object so defined is considered as the intelligible contour common to both theoretical and practical knowledge. In theoretical knowledge the object is object with no further qualification. In practical knowledge, i.e., in free choices, the object is, besides, also an end.

The act of free choice consists in this, that a man can make an object be an object-end for him. Not all his actions are free, because in not all his actions can man determine which objects will be ends. In some of his actions, such as the beating of his heart, the object is always the end and he can do little about it. Both what his heart can do and the doing of this are by nature one. In some of his actions, such as theoretical thinking, the object is never the end. Man does not make his theoretical knowledge in the sense that he can make or unmake or make it differently. He can of course choose to think or not think, but this does not touch the content, the object his propositions express. And between two conclusions he can choose one or the other, provided neither appears fully conclusive. All of which is an indirect admission that the conclusion in question is not quite up to being a full conclusion, even though it is the best at hand. Where theoretical knowledge is full, it is clear and conclusive. At this spot a man must either think such a conclusion or not continue to think the premisses. In some of man's actions, such as free choice, there is no object that is of itself his end. He can make this object be his end or he can make that one be his end.

Take the example of the practical knowledge by which I chose to write this paper. It can be stated in the conclusion: "I will write this paper." The object, such a paper, achieved my knowing power. Left at this stage of pure object, and possibly it

² For a fuller consideration of object as that which can achieve a power, see G. Smith, S. J., "Philosophy and the Unity of Man's Ultimate End," *Proc. Amer. Cath. Phil. Assn.*, 1953, pp. 60-83.

should have been left there, no choice would have taken place. This object got involved in choice, when I also made this object achieve my desiring power. It need not have done so. There is nothing in the knowledge of such a paper that demands that it be operative as an end. Otherwise I could stand before you and say: "Don't blame me for deciding to write this paper; it was all tied up in my knowing that it was to be such as it is." But I cannot say that, nor would you listen to me if I said it, because we all know that such objects are not necessarily ends. When they are also ends, they are ends because I of myself make such objects to be my ends.

Now to make an object an end is nothing else than to know it as best for me here and now. Such knowledge is distinctive in that there is a factor of this knowledge that goes beyond knowledge itself. Ask this question: Do my reasons for a free choice account for my choosing this one line of action? I think the answer is: No, not fully. The true account would be this: These are the reasons of my choice because I accept them as my reasons. There is no guarantee in any reason or object that it will be my reason or object, until I accept the reasons as my reasons for choosing this object. At the moment of acceptance I begin to know what is best for me here and now, i.e., that these reasons are my reasons.* Such knowledge is desirous or causative knowledge, which is the internal act of free choice.

The main feature of this internal act is precisely its responsibility. Nothing in free choice, not even the knowledge, fully accounts for such actions without the original character of the causality of the person. And the point of responsibility is not merely that if I had not chosen, there would have been no choice. All actions have this character. If I do not think, my thought will not be; if my stomach does not churn, this churning will not be. The point of responsibility is here: responsibility is *my* causality by which I made an object my end. It is the object that

* Here 'reason' means what I accept as my motive for so acting. Thus the willful person finds a reason in his very desire to do just as he pleases. And when one must act, though no alternative seems good, and he chooses the lesser of two evils, this is his reason: what he chooses is the lesser evil.

I accept and make my good. I am willing to move towards this object and join it to myself as mine, a kind of reincarnation of myself. Theoretical knowledge carries no such commitment to the object. The knowledge of thievery is shared by both policemen and thieves. What distinguishes and constitutes the thief is his practical knowledge, i.e., his loving knowledge of thievery, the thievery which lives in his heart as willed to be known to be there.

Herein, I believe, lies the reason why man knows himself and his personal existence most completely in his free choices. In no other act are his knowledge and his action and himself more completely united. Man's natural acts go on whether he knows them or not. His purely knowing actions have little of his personal self in them, in a way the less the better. In purely knowing actions his personal involvement is only to the extent that he decides to keep at the job of thinking. But should he decide to make 2 and 2 be 5, he would ruin his speculative knowing. Yet his free choices are made by him and are known only in his making them. To know certainly a free choice is to know self as committing self to the object loved. Thus man slowly gains a knowledge of his personal existence by knowing himself in the choices he has made and in his succeeding choices in so far as he can anticipate them. At his very core a man can be known by his choices. And this core and consequently his knowledge of himself will not be fully completed until a man has made the choices that will spell out his own proper name.

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III

WILLIAM EARLE

The preceding papers have located and characterized the freedom in which we are interested: we are not then talking about freedom as it might be said to be in the physical world, in which sense it tends to lapse into the negative idea of "indeterminism"; nor about the freedom of external action, political freedom, which usually means the "absence of external restraints." We are attempting to characterize that internal freedom which is the source of our acts, and which is never found in the physical world.

If then we are interested in an inner phenomenon, we have the perfect right to investigate it phenomenologically, that is, to discover its structure as it presents itself to the subject himself who is free, and not as it might be inferred by an external observer. Further, we are taking as our example, the *free decision*. Since we all make free decisions, and mankind has been making them for a long time, we find that ordinary language is perfectly adequate and perfectly precise to express what we find there. What we find then is expressed by something like this: "I decided to do that, because . . ." This expression of our awareness of our free decisions contains implicitly, I believe, all that is to be known on this level. Nothing further is required of philosophy until questions are raised from other standpoints, whereupon we must reflect on what we have said, compare it with what we have not said, or try to subsume its structure under some more comprehensive structure.

Let us adopt Father Wade's language for a moment. There is an agent, an act, and an object which we have made our end. The agent is an *I*, my act is to *decide*, and what I decided was to *do that*. We may also wish to give a reason for our decision: "because . . ."; in fact this giving of a reason is an intrinsic part of our decision; but it also raises a problem, for it may seem that in giving a reason for my act, in answering the question "why did you do that," I give the cause of my act, and thereby disavow my freedom in giving a cause for it. That such is not the case,

that the giving of a reason for one's activity is perfectly compatible with our freedom we shall show in a moment. Meanwhile let us pause on what we have. We already have, I believe, the complete expression of our own inner freedom; and there is indeed nothing remarkable in it until we begin to compare what we have said with what we have not said, and with what *would have to be said* if we were not free. Let us reexamine our formula.

In the first place, as Professor Stallknecht emphasized, it is always an *I* which is freely deciding. But what is this *I*, *self*, or *ego*? It is a unity of subjectivity in some form; but the form here is everything. A bare, simple subject, such as we are most of the time, and such as we may suppose to be that of the animal always, is not a self; it is conscious, or aware, but it is not aware of itself. Bare consciousness lost in its object, registering lights and shadows, or pleasures and pains, is no self; it is not a person, and is not free. It senses and desires, but it is incapable of making decisions. The subject which is also a self is a subject which has folded back upon itself, so to speak, which is self-conscious. Subjectivity must "come to itself," return to itself from its dispersion in the world, if it is to be a self. It must be "collected." A subject then becomes a self when it becomes aware of itself. Bare consciousness may be well aware of its own internal states. The animal knows very well its own feelings, pleasures, pains, and desires. But such inner feelings do not constitute the subject itself. The subject must know itself *as subject*, for it to be a self; and an awareness of itches, headaches, pains, pleasures and desires is not an awareness by a subject of itself *as subject*. It is simply the same sort of awareness we have of the external world but now turned inward. The subject then must grasp itself as subject.

If such reflexivity is what distinguishes the *I* from bare subjectivity, it is by itself insufficient to distinguish the *I* from its various modalities. The reflexive act, once it is started, is capable of an inexhaustible number of modifications, which hardly makes discussion of it any easier, since we have but a single term to refer to them all. Let it be sufficient here to remove two of these modalities of the self as irrelevant to what we are talking about when we say "I decided." First of all, the reflexive self is not the subject explicitly looking at itself. It is not, so to speak, a cross-

eyed consciousness, where one subject looks at another which it infers to be itself because of a striking similarity. When I decide upon some course of action, I am least of all thinking about myself; I am thinking about the matter at hand; but nevertheless it is a *self* which is so thinking. Thus the self which decides is not a subjectivity which has itself as its explicit theme. The I, although reflexive, has its attention upon the world and upon action. Its reflexivity is thus both preserved and cancelled in its immediacy, a relation distinctive of the self, and made famous by Hegel through the nuance he gave to the term, "aufheben." Jean-Paul Sartre expresses it by putting the "of" in the phrase "consciousness (of) self" in parentheses. Thus in effect we are noting that self-consciousness is *not* a subject-object relationship. It is rather an irmediate union of the subject with itself, where there is both an identity of *being* and an identity *for awareness*.

If the I which decides does not explicitly have itself as object, neither is its union with itself so perfect that all other contents are excluded. Such a total union of the subject with itself or the self with itself seems to occur with some natural mystic states. But whether or not they do occur, whether there is such a dark night of the soul lost in itself, surely the I which decides is in no such condition. The world has not dropped away, but is now an explicit theme for decision.

If it is a reflexive self which decides, it will not be surprising if all the stages or moments of that decision reflect this distinctive character of the agent. And further, we may expect these moments to have distinctive names to mark their difference. Thus, the I *decides* in the free act, it does not merely desire. Decision and volition mark the *acts* of the *self*; desire, impulse, appetite mark the distinctive intentionalities of the bare subject. The difference is immediate and clear. We *find* ourselves with appetites; we *make* decisions. I do not and cannot find myself already provided with decisions. Even if I took a solemn promise yesterday to act today, yesterday's decision, no matter how firmly made and insisted upon yesterday, does not act today; for it to be effective today, I must renew it today. I may be morally obligated to honor yesterday's promise; but yesterday's promise cannot literally force me to act today. My decision then as an act is radically different

from the desires and inclinations I find within me. And it is, in fact, the same order of phenomenon as the self. A decision is an *affirmed* inclination and what is an affirmed inclination but an inclination modified by reflexivity? Inclinations already are of the *conative* or *tendential* order, but so is affirmation; it differs from inclination or appetite in being reflexive. An inclination is a tendency toward something; an affirmation likewise is a tendency toward; but it is a tendency toward a tendency, and is therefore reflexive. In decision I survey my inclinations and aversions, and reflexively affirm some and refuse others. Why and how will perhaps become clearer in a moment when we discuss the reason for my act. Meanwhile it should be noticed that this reflexive affirmation which is decision is *conatively* reflexive and not *cognitively* reflexive. A decision is not an awareness of my inclinations; it is an affirmation of them, and affirmation is an act of the will and not of the intellect.

The last moment in our formula expresses the *end* of the decision. I decided to do *that because*. Here we can supply three types of answer to the question, "Why"? If I am asked, "Why did you decide to do that"? or rather when I necessarily ask myself this question, I can reply in three ways: 1) because it was best, 2) because I couldn't help it, and 3) because I wanted to. Reference to the *best*, however that term is specified, supplies us with a *justification*. Reference to my inability to do otherwise supplies us with an *excuse*. Reference to my own will, which in effect refuses to give either a justification or an excuse, is the expression of *defiance*, and we can find numerous examples of such a moment in ourselves, among children, among the underground characters in Dostoevsky, and in the reasonings of Satan. They all affirm their own wills as the principles of their acts, and represent the case which has always been made against Plato's view that no man ever does evil knowingly. Of these three possible reasons for our decision, the second, where I acted because I couldn't help it, need give us little trouble. In effect, it simply restates that what I did was not my free decision at all; I was overcome by desire, and while I may take responsibility for not having a stronger will, at the *moment* I was overcome; and therefore I hardly recognize what I did as my own free act. The other two

cases, where I justify my act or where I refuse to justify it out of defiance, are mentioned here simply to complete our analysis; both are expressions of the reflexivity of the self. Justification justifies a decision by subsuming it under the *universal* good, under the ideal, however that may be more concretely envisaged. Defiance is an active refusal of justification, and therefore necessarily recognizes that good, although in the mode of refusal. The important thing to notice, then, is that my free decisions recognize the good, either by way of affirming it or denying it, and either way, its goal is distinguished from the goals of mere appetite. The goals of appetite are simply the specific things they are; the pre-reflexive dimension of ourselves feels no need of justifying itself. Each appetite envisages its own proper goal, and that's the end of it. A free decision however must *justify* such immediate ends by a reference to the good. But the good insofar as it functions as a standard or criterion must have the character of a universal. Now obviously it is only a reflexive self which can recognize the universal in the particular, since it alone has the power of being reflexive over the individual and particular. The reflexive subject is identical with the rational subject; its reflexivity, its doubling back upon itself, removes it from an exclusive identification with the individual and particular, which is the fate of bare individual subjectivity. The reflexive act by which the subject becomes a self is therefore the source of the possibility of that self having universal goals, of seeing the universal in the particular, and therefore of acting in accordance with the ideal which it thus sees.

It is clear therefore why a justification, the giving of reasons for our conduct, is never an infringement upon our freedom, providing the reasons we give serve to *justify* our decisions, and not to remove them from us altogether by finding those reasons in the external world, or in impulse. Justification therefore completes the free decision and does not cancel it. For justification itself is an intrinsic act of that same reflexive self which freely decided in the first place.

All of this, I take it, is implicit in the phrase, "I decided to do that because . . ." So far we have done nothing but explicate the distinctive features of the act, comparing each term with its analogues on the non-reflexive level. The I is reflexive in compari-

son with bare subjectivity; its decision is reflexive in comparison with bare appetite; its goal is reflexive or universal in comparison with particular ends of the appetites. The entire free decision therefore occurs in the medium of reflexivity, and is unthinkable without it. And of course, the source and origin of all reflexivity is the self, the other moments having but a derived existence. All reflexivity reverts to the primordial reflexivity of the self.

From the concept of reflexivity the other characteristics of free decision can be derived. *Responsibility* is one of the chief of these: I am held responsible for what I did do, or what I could have done, or should have done. Responsibility refers me back to the category of the "mine": if no deed is mine, then I can not be responsible. And what is the "mine" but the category which fundamentally unites me with myself, which reverts in other words to the primordial reflexivity which I am? A bare subjectivity does not *own* its actions, nor can it raise the claim of anything being its own; it is not responsible for what it does, principally because it is not responsible for, does not fundamentally own itself. Only if I enact the claim of coming to myself, taking possession of myself by reflexivity, can I own my own self, or anything else. Thus responsibility here is a different category from its physical analogue, where we might be tempted to say that a stone is "responsible" for whatever it does. It does indeed do whatever it does, but it is responsible for what it does only in a wholly different sense of "responsible." It causes its effects, but it does not own them.

Further, besides "responsibility," the concept of *causing itself, causa sui*, which is essential to freedom, is immediately reformulable as reflexivity. If we begin with two notions of causality, that of being caused by another, and that of not being caused by another, but causing oneself, it is clear that bare subjectivity before it becomes reflexive, falls under the first category, while the self falls under the second. The bare subject is determined by the objects which appear to it in its environment, and by those which it finds itself desiring. It is, so to speak, the subjective expression of the immersion of its body in its external environment. It is not free, but completely at the mercy of that external other. If there is still a sense of freedom left here, it is

that freedom which characterizes absolutely all things of whatever sort they might be. But what happens to such a determined subjectivity when it becomes reflexive over itself? By doubling back over itself, it comes to itself, becomes a self which means precisely something independent, something on its own, an entity which as reflexive on itself is free of immediate determination by what is alien.

The natural world of sensation and impulse is, to be sure, still there, but it has lost the upper hand; it no longer immediately determines my action. What does determine the action is now a new totality, natural consciousness with all its contents and richness become reflexive upon itself, and self-determining. It is now the *total self*, the *reflexive person*, which acts, and that action is not an immediate expression of the pre-reflexive external causality, but of such causality transformed by reflexivity. The natural and pre-reflexive passes then from being an external and alien other which immediately determined what was done, to the mere *basis* of such action, a necessary but insufficient condition. It has sunk to the level of supplying materials, alternatives, possibilities, inclinations, etc., for a self which now holds the whip hand over them. Freedom thus is not something that floats into the natural world from nowhere, supplying a new natural force on the same level as those it is contrasted with; it is a modality of nature, but a modality which adds a dimension to nature not reducible to what was there before. Freedom, I should hold, is perfectly natural in one sense, and perfectly non-natural in another. Its bases and conditions are certainly nature itself; but if it and all its works and operations are to be regarded as "natural," then the term "natural" must be extended into a dimension where it has become strictly equivocal. If the "natural" is taken as describing entities which are non-reflexive, and their laws and principles, then freedom and all its works are above nature precisely by their reflexivity.

We should notice that the *precariousness* of freedom which Professor Stallknecht insisted upon is a necessary consequence of what we have been saying. The act of reflexivity which is identical with freedom has no causes whatsoever, if "causes" are understood as pre-reflexive, natural causes. How could such external forces,

be they ever so complex, cause that to be which is *in its essence* independent of such causes? The emergence of freedom or reflexivity is itself a free act, not producible by any force, external cause, or technique. Again, however, we have something analogous to natural causation on the reflexive, rational, or free level; instead of *causing* or *forcing* freedom to arise, we may elicit it, something which looks like causation but which is not: we use the methods of freedom, i.e., suggestion or reason. We seek to elicit freedom in ourselves and in others by *persuasion*. But the persuader can never guarantee the effects of his persuasion; those effects, insofar as they seek to elicit freedom, rest ultimately upon an appeal to the person addressed, and that appeal may find deaf ears. To attempt to force either ourselves or another to be free is a ludicrous or tragic confusion of diverse realms of being. Freedom can not be caused.

And finally, we come to the last point. Does freedom exist? Perhaps this should have been our beginning, but how could we have proved its existence until the nature of what we are trying to prove had been established? So, having said something about the essence of freedom, identifying it with reflexivity itself, we are now in a position to say something about the question of proving its existence. And, seen from this standpoint, the proof of freedom collapses from the status of the radically problematic or hypothetical to that of a self-evident truth. If freedom is nothing but the reflexivity of consciousness itself, which in that act of doubling back upon itself frees itself from the immediacy of bare subjectivity, then it is literally and strictly absurd for any self-conscious creature to doubt its own freedom. To doubt its freedom is simply to doubt its own self-consciousness, and while there are beings which are not self-conscious, they are not in a position to raise the question. The assurance that I am free is identical with the assurance that I am self-conscious. And such assurance is identical with reflexivity itself; the proof, therefore, of freedom is nothing but the self-evident fact that I am aware of my awareness anytime I care to reflect upon it. Self-deception is impossible here.

It is therefore precisely the same sort of truth which is found in the Cartesian cogito. And if the objection is raised that some philosophers *have* doubted their own freedom, as well as their own reflexivity, and their very existence, our answer must be that it is

easy to miss the self-evident simply because we misunderstand what we are to look for in the first place. If one looks for the self not in that radical act of reflexivity which constitutes it, but by surveying various internal feelings; or if one looks for decision among the impulses, supposing it to be simply the strongest of them; or if one identifies the good with some individual goal of appetite; in other words if one looks for freedom in the pre-reflexive natural, or physical world, it will not be found. But who ever supposed it to be there in the first place?

If now we take our inner certitude of freedom and wish to integrate it within a total scheme of Being which includes the natural physical world where causality from the outside is supposed to dominate, we *do* seem to have a problem. If everything is caused by something else, how can freedom pretend to cause itself? But about this problem two things may be said. First of all, it does not call into question the existence of freedom, but only the adequacy of certain theories we have formed about nature. Freedom is self-evident; the ultimate principles of nature are not. And now if the phenomenon we are trying to integrate with nature is incapable of such integration on the basis of some concept we have formed of nature, that does not render freedom questionable, but rather renders that concept of nature dubious. It would be poor philosophical method to cast doubt upon the self-evident in order to save what can never be more than a problematic hypothesis about the structure of nature. Our assurance of freedom is not an assurance about anything but what is immanent to consciousness itself. It is my own inward assurance that in the free decision I am indeed free of the immediate determination by my pre-reflexive consciousness. It is up to the philosophers of nature to do the best they can with our inner certitude.

Secondly, external causality, as a supposed universal principle of nature, is itself nothing very clear. If something causally depends on something else external to or other than itself, then its very *being* is dependent upon that other. For any given thing therefore, if we assert that its *entire* being is dependent upon what is not itself, we cancel in effect the inner independence and being of the thing we start with taken in itself. It becomes, in Bradley's language, an adjective of what is not itself. To regard it as self-

evident now that everything in nature is an adjective of everything else is surely to pose an impossibility as a premise. In everything that is, there must be some dimension of its being which is not adjectival of what is outside itself, some independent moment of its own actuality. The alternative, universal external causation, is a whirl where nothing exists except as dependent upon something else which also doesn't exist except as dependent, etc., in an endless regress. Now what is there to prevent that moment of independence which anything must have in order to be itself now from being the *entrée* for freedom into the natural world? At best we have here a negative concept, approached from this natural side; but that negative idea might well be the point where freedom and physical causality intersect.

A final word on our principal category. Reflexivity, or freedom, is exemplified for us in ourselves. But we should not, I believe, lose sight of the fact that although it is exemplified in ourselves for ourselves, it is, for any *literal* or *positivistic* thought, a paradoxical category. Freedom, reflexivity, and the *causa sui* can not be analysed literally without running into flat absurdities and paradoxes. To clear away the paradoxes in one form of expression is to see them emerge in another. Freedom therefore is strictly *unintelligible*, if the *intelligible* is the *literal* and *objective*. And this should occasion no surprise since the literal and objective is always the pre-reflexive. Our idea of the intelligible is modelled after our experience with the physical and pre-reflexive world. There each thing is what it is and not another thing. And it can be simply named. With reflexivity we have the anomaly that the subject makes itself object, and thus is identical, yet not identical with itself. We have the literal objective world folded back upon itself. How could such a world be described in literal terms other than as a paradox? But at the same time, we consciously *are* this reflexivity; and therefore, although any literal description of it offers many opportunities for the discovery of paradoxes, such paradoxes do not mean that we don't know what we are talking about. We do have a reflexive consciousness as well as a pre-reflexive consciousness; that the one is unintelligible in terms of the other is nothing but a consequence of their literal irreducibility.

Finally, it should be noticed in this connection that *causa sui* and freedom were terms reserved by Spinoza for God, and also for man insofar as he shared the idea of God, which for Spinoza was identical with God's idea of Himself. Our own analysis would point in similar directions. It is not an accident that almost all metaphysical systems have hit upon terms derived from self-consciousness to characterize their ultimate principle. There is an essential connection, I believe, between the moment of freedom in the human self and absolute Being. Freedom is one of our clearest images of what something absolute might be.

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CRITICAL STUDIES

PLATO'S MATHEMATICAL IMAGINATION

A. BOYCE GIBSON

MUCH has been written about Plato's mathematical theories; if there is still dispute about his meaning, it is not for want of critical attention. But very little has been written about Plato's use of mathematical *illustration* as an aid to the understanding of his philosophical concepts. This is the main object of the work under review;¹ and it richly deserves this exhaustive and scholarly special study. In the past, Plato's mathematical illustrations have either been treated, as by the neo-Platonists of antiquity, as esoteric clues to be read off with scrupulous literal-mindedness, or, as by nineteenth-century classicists and literateurs, as irrelevant embellishments conceived in a mood of technical hilarity. Neither of these explanations will serve, the first, because *no* illustration should *ever* be treated literally, the second, because that a mathematician like Plato should have resorted to mathematical illustration only when he was feeling flippant is completely incredible. Mr. Brumbaugh's investigation is therefore both timely and important.

Mr. Brumbaugh gives several accounts in the course of his work of the main purpose of his study, and the emphasis falls now one way and now another. Readers may easily be misled (as the reviewer was for some time) by the opening sentence of the introduction, which suggests that Plato's mathematical illustrations are pointers to "diagrams which Plato had designed, and were intended to accompany and clarify his text." If that is what Mr. Brumbaugh intended, he has failed to make out his case. There is no direct evidence that Plato designed diagrams;

¹ Robert S. Brumbaugh, *Plato's Mathematical Imagination: The Mathematical Passages in the Dialogues and their Interpretation* (Bloomington: Indiana University Press, 1954).

and there is some good inferential evidence to the contrary. It would be surprising, for example, if Plato's diagrams had survived that long, that Aristotle (*De Anima* 404b) should have described the Divided Line in terms of an arithmetical progression and ignored Plato's express indication of proportion between the upper and lower segments. Mr. Brumbaugh himself faces this passage and admits (p. 98) that "no continuous tradition connects the figures of Hellenistic scholars with Plato's original design." But it really does not matter. If we design diagrams in the light of our knowledge of Plato's mathematical imagination, it is most certainly a help to the interpretation of the passages concerned. This, as a matter of fact, seems to be Mr. Brumbaugh's main reason for ascribing the diagrams to Plato, and while the conclusion does not follow, the premiss is correct; and the premiss, not the conclusion, is the main point at issue.

Much more satisfactory descriptions of the intention of the writer are to be found on p. 95, where he says that his study is "entirely directed" against the "tendency to disconnect the mathematical passages from their contexts," and on p. 101, where he explains that he is inquiring into "Plato's use of schematisms to explain and illuminate concepts." Taken together, these two announcements describe excellently the purpose of the work, and there is no further need to insist upon its importance.

In describing Plato's mathematical imagery, Mr. Brumbaugh takes care to begin at the beginning. He realizes that behind the technical virtuosity of Pythagorean mathematics there were quite simple experiences which would be likely to register on any intelligent Greek, and among them the abacus or counting-board.³ The interest of the abacus for his more complicated purposes is that it "takes advantage of spatial orientation to differentiate kinds of relation" (p. 20), thus leading on, in the first place, to the analogy between "sets" and numbers (all-important in Pythagorean mathematics), and, in the second place, to Mr. Brumbaugh's own device of "matrices."

"A verbal matrix," he writes, "defines a term by locating it

³ Indeed, the first of his one hundred and eight diagrams is a reproduction of the one surviving example, the so-called "Salaminian table."

in relation to a set of other systematically ordered terms" (p. 72). (A typical example is presented in *Sophist* 266, where there is a cross-classification of the four factors: divine creation, human creation, realities and appearances.) Schematic illustration in matrix form is certainly an aid to quick understanding. And, the matrix once established, operations of vertical and lateral "shifting" may go on within it: if a term is shifted along a row to another column, the result is metaphor; if the matrix is "schematized," that is, if the proportions between the successive matrix positions are themselves symbolized in another set of matrix positions, we have cube-shaped diagrams ready to receive the contents of experience in appropriate mathematical form. It is with these "schematisms" that Mr. Brumbaugh mainly operates in his interpretations of Plato's mathematical imagery.

The reviewer's reaction to all this apparatus is that it is handy, but no more. It would be possible, at the expense of some inconvenience, to develop all Mr. Brumbaugh's conclusions in ordinary language. What is really to be admired in him is not his machinery (to which, naturally enough, he shows a certain paternal attachment), but his dogged scholarship and his literary insight.

The principal themes to which Mr. Brumbaugh brings his great learning and sensibility are: the administration of Atlantis, the Divided Line, the Nuptial Number, the Tyrant's Number, the Myth of Er, and the construction of the World Soul.

It is one of the great merits of Mr. Brumbaugh's treatment that he everywhere tries to integrate the mathematical illustration with its context, and it is unfortunate that his commentary on the fall of Atlantis fails because it neglects the context. Readers should not retire discouraged at this point, because it does not happen again. The contention is that Atlantis fell because of faulty planning by bad mathematicians. Unfortunately for this view, the MS breaks off one page too late. It is essential to it that Atlantis should have been wrong from the first, founder, institutions and all. But in *Critias* 120E Plato says that the inhabitants were admirable citizens for many generations, "giving obedience to the laws and affection to the divine whereto they were akin," as long as the strain of Poseidon was strong in them

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(so that their founder cannot have been quite as false and stormy as he is painted, and in particular he cannot be the Olympian counterpart of the tyrant; cf. p. 205), and in 121A-B he attributes the decline expressly to "constant crossing with much mortality." With these definite statements in hand, we cannot subscribe to Mr. Brumbaugh's view that Atlantis was doomed from the beginning by its unimaginative collocation of 5's and 6's, and we may even be brought to remember that the number 5 was the hypotenuse of the famous Pythagorean triangle, and the number 6 its area. As for the canals, they were undeniably complicated, and Plato *may* have been gunning for Hippodamas and his rectangular cities. But there is no sign in Plato's description of Atlantis of its later presumption and pretentiousness, until the descendants of the god persisted in marrying native.

There is no doubt that this case weakens one's confidence in the writer's mathematical interpretations, and it is with pleasure that one turns to a case in which they are helpful and illuminating. It is a source of embarrassment to a lecturer on the *Republic*, as he expounds the Divided Line, that Plato's precise instructions forbid him from doing what he none the less feels that Plato would like him to do, namely, to represent the objects of εἰσότης, πίστις, διάνοια and ἐπιστήμη as progressively advancing in the scale of being. In the text, Mr. Brumbaugh suggests that the Divided Line conflates two notions which cannot be schematized simultaneously: the notion of progression, which is needed to represent the continuity of the Guardian's education, and the notion of analogy between incommensurables, which is needed to represent the χωρισμός or separateness between the Forms and the world. We have, in fact, a case of "interference," where the schematism required by the one notion is invaded by the requirements of the other. Formally, the Divided Line sets out an analogy, and the result is that the line signifying the objects of πίστις and the line signifying the objects of διάνοια are necessarily equal. The general response of commentators has been to disregard this equality, to say that no diagram can explain everything, and to expound the objects of διάνοια as having greater reality than those of πίστις. But this is not what the diagram says. As Mr. Brum-

baugh says, we "draw the diagram one way and then interpret it in the other" (p. 98).

This is useful criticism, and if it is generally heeded it will reduce considerably the perplexity and disputation to which the Divided Line has given rise. Even more instructive, however, is the discussion in Appendix B, p. 269, with the appended diagram fig. 108. Here it is shown how the Divided Line could have been constructed by divisions in mean and extreme ratio, by the method of Euclid, II, 11, so that "the various segments are proportionate to each other, though linearly incommensurable." This sidelight on Plato's mathematics is of undoubted importance to interpreters of the *Republic*. It means that it is possible to enclose the structural outline of the world in an inclusive system of mathematical interpretation. "With the Forms it ends," certainly (*Rep.* 511C); the observed empirical features of the world are still opaque; but, with added ingenuity and complexity, mathematical construction can keep pace with them, as far as their formal structure is concerned. For Plato as for the Pythagoreans, number, as it develops from its base in the One and the Indeterminate Dyad, engenders and informs bodies, and is the one thing about them which lays hold on truth. (The cube, for example, as the *Timæus* shows, is the configuration of body.) With this clue in hand, the sequence of mathematical studies outlined in *Rep.* VII becomes, for the first time, intelligible. It will be recalled that arithmetic, or general number-theory, is followed, in that order, by geometry, solid geometry, astronomy and harmonics. It has been customary to assume that this sequence begins at the top and slopes downwards into the world of chance and disorder. The result is strikingly and un-platonically inartistic: the prelude to dialectic, confidently introduced, wanes and dissolves by the time the leap into dialectic is due. Mr. Brumbaugh's interpretation renders the sequence as a crescendo, with harmonics as the climax; the mathematics of astronomy and music are a more potent and intricate exercise in the power of number—more potent and more intricate in proportion to the evanescence of its subject-matter—and are the best preparation for that supreme mental effort distinguished by "the power of seeing things as a whole." I have no doubt at all that Mr. Brumbaugh is right; he is sup-

ported by parallel passages of the *Timaeus*, and he makes sense out of passages of Aristotle such as *Metaphysics*, 1090 b 20: "the believers in Forms . . . construct magnitudes out of matter and number, lines out of 2, planes out of 3, solids out of 4;" it is no longer necessary to refer such passages, as Shorey did (*Amer. Jour. Phil.*, XXII, p. 152), to "fooleries of Xenocrates." All this, and more, is thrown in our way by Mr. Brumbaugh's diagram, and he undoubtedly opens up to interpreters of Plato a new and fruitful line of approach. And he is able to do so because he follows his program of integrating the mathematical illustrations with the context.

Considerable space has been devoted to a comparatively short section on the Divided Line because it is philosophically important. The Nuptial Number is not so central to the argument of the *Republic*, but Mr. Brumbaugh discusses it at length, and we have no option but to follow his example. The subject has a fascination for mystery-addicts, from Barozzi in 1566 (one of the best of them) to the present day; and it remains open, for James Adam's monograph of 1891, to which most recent authorities defer, is quite certainly as wrong in its interpretations as it is philologically invaluable. Moreover, it is necessary to take it seriously; if it had been regarded by contemporaries as a mathematical whimsy, Aristotle would hardly have treated it with his usual irritable attentiveness. (The reference is *Politics* 1316 A 2, and not, as Mr. Brumbaugh has it, 1313 A 2.) In two respects Mr. Brumbaugh improves greatly on Adam: he discards the astronomy which has been read into the passage from Proclus downwards (thus concluding on a much more manageable number, 23,300, instead of Adam's 12,960,000); and he does not take the *περίοδος* as a period of gestation—what is throughout in question is not gestation at all, but the right moment for procreation. Scholars will have to judge whether his reading *ἐκαστον* (which has good MS authority) is to be preferred to Adam's *ἐκαστον*; the reviewer's own conclusion is that *ἐκαστον* makes better sense and is a slightly clumsier but permissible construction; if it is accepted, Mr. Brumbaugh's solution of the actual number is correct.

But, for the philosopher interested in Plato as a whole, it is the interpretation of the Number that matters. Mr. Brumbaugh

is right in thinking that what is in question is the mathematical representation of points in the life-cycle, but not of the proper age for marriage; which, as he observes, has already been settled by empirical observation (460E). What would seem to be required is the pin-pointing of an acme in each of two life histories. Mr. Brumbaugh's fig. 52 supplies an acme, but one only, and at least as represented in the figure it is unrepeatable, whereas it should surely be recurrent and periodical—the Nuptial Number must do duty for more than one nuptial occasion! The reference to male and female may be conveyed in double-talk in the technical terms *δυνάμεναι τε καὶ δυναστεύμεναι*, which refer technically to roots and squares; from this point of view Mr. Brumbaugh's double translation is extremely instructive. The use of the Pythagorean marriage triangle, $3 \times 4 \times 5$, further entangles the genetics with the mathematics, and the square and the rectangle of the text may be male and female at a very high level of symbolization. But how the Number, on any showing, could serve the guardian in his role as marriage guidance officer remains a mystery, and Mr. Brumbaugh does not explain it. This, perhaps, accounts for his conviction that he will have further dealings with the Number in the near future.

He does, however, in the course of the discussion throw out startling suggestions which, if acceptable, would most instructively connect the Nuptial Number with other parts of the *Republic*. In particular, he assimilates the "three stages with the four bounding points" mentioned in the geometrical specifications for the Number to the Divided Line, and identifies the acme of the candidate for marriage with the human norm of intelligence. The recurrence of the image is certainly suggestive, and none the less so if, as is probable, it was not deliberate; it indicates the re-awakening as fringe-thoughts of a set of ideas previously operative at the fully conscious level, and fruitfully stirs up old associations. If Mr. Brumbaugh is prepared to leave it at that, I am with him, and am ready to welcome the symbol and its associations to the new context, much as I should welcome, as a binding thread, the tentative resurgence in the later movements of a symphony of an earlier dominant theme. My difficulties begin only if it is pressed too literally and too far.

The acmae for marriage cannot be those which, as Mr. Brumbaugh himself points out in another connexion, are not attainable till the age of fifty. As it takes that time to make the ascent of the Line, there must be a hitch somewhere. What the revived imagery of the Line suggests is the picture of the whole man; but it must be readapted to the circumstances of marriage; what have to be found are the periods which are as suitable for marriage as the age of fifty, at which the major preparations are at last complete, is suitable for ruling. To each its own periodicities; that is both the resemblance between the two cases, and the difference.

Finally, I must confess myself unconvinced by the extremely ingenious proposal to read off the main characters of the *Republic* (from aristocrat to tyrant) along the hypotenuse of the nuptial triangle. I do not deny that in locating them there Mr. Brumbaugh has kept within range of Plato's instructions, and I am very conscious of having no counter-proposals to offer. But Plato knew how to disconnect his material as well as how to assemble it, and I cannot help feeling that here, as elsewhere, he would have preferred to take one step at a time. Those acquainted with his imagery and habits of mind may experience the sequence of characters when they are confronted with the Divided Line, and this experience will be both symbolized and reinforced by fig. 53, in which the Divided Line appears as the perpendicular of the triangle, the psychical sequence appetitive-spirited-rational as the base, and the sequence of characters on the hypotenuse. But that Plato planned and demarcated all these complications in the present context seems highly unpalatable. There being an underlying connexion, what he says naturally *suggests* them, but they are not themselves symbolized: they are recalled by what is symbolized.

And here we have to insist on a further proviso. The symbolizing of the situations by the Number must not be such as to supply certain guidance. The whole point of the passage is that Guardians, however intelligent, will sooner or later misapply it. Knowing how to calculate the periodicities, they will make mistakes, or fail to adjust their calculations to the situations presented. But they could not make mistakes if the formula

provided them with practical solutions on a platter. There must be a gap between formula and practice in which the miscalculation can occur. Now the margin of error does not arise in the elaboration of the Number itself, but in its application to human affairs. Therefore, its application to human affairs cannot have been intended to be indicated too precisely. What is given to the guardians is the Number governing the recurring *acmae*; what they have to discern in the face of "interference" from the changing world, is when these calculable moments have actually arrived. For this, as for all other purposes, the empirical data are never entirely adequate.

Thus a scheme of correspondences detailed enough to remove error is not what Plato had in mind, and those cited by Mr. Brumbaugh belong to the realm of free association rather than to the intent of the argument. As it is *Plato's* free association, it is not uninformative to set them out; it tells us something about the imaginative hinterland of the *Republic*. But that Plato intended us to refer to them is, on the balance, improbable.

Despite these misgivings, the reader can be assured that he will leave this account of the Nuptial Number reluctantly, and in a blur of admiration. It is scholarly, imaginative, well-documented, and the best to date.

The tyrant's number, studied shortly on pp. 151-60, and the myth of Er discussed at length on pp. 161-208, may be taken together, as illustrating particularly well the utility of Mr. Brumbaugh's "matrix" diagrams, and because of their common involvement with the hierarchy of professions mentioned in *Phaedrus* 248. In each case what the diagram brings out is a formation of 9's, which almost seems to serve as a mathematical *leit-motiv* denoting the succession of lives. The tyrant's number is a standing puzzle, for the tyrant is five removes, not nine, from the aristocrat, and it is hard to see how cubing the difference can give us 729. Plato's explanation, that the oligarch is third from the aristocrat and the tyrant third from the oligarch, certainly keeps the calculation to multiples of 3, but otherwise can only be taken as a joke, and suggests to the ordinary reader a Platonic attempt to dramatize a pretended mathematical innocence on the part of Socrates. Mr. Brumbaugh ingeniously fills his 9-cubicle

matrix by introducing intermediate characters from the *Phaedrus*, and has no difficulty in distancing the tyrant from the aristocrat as 9:1. "Squaring and cubing" does the rest. The device saves the situation, but I confess to a certain doubt about the pigeon-holing of the "lives" in the *Phaedrus*. In particular, I can see no ground for placing the βίος γερματιστικός, the life of gain, in the matrix column under "soul," or the μαντικός βίος, the life of a prophet, under "body"; and the cohesion of the columns would be greatly improved if the positions of the poet and the artisan in the *Phaedrus* list were transposed. But so far I am willing to give Mr. Brumbaugh the benefit of a considerable doubt. Where I find it impossible to follow him is in his adaptation of the matrix to include the characters in the myth of Er. Plato must be allowed a little freedom and fancy; no doubt the myth of Er was vaguely in his mind when he wrote the *Phaedrus*, but it is more than likely that a similar general drift of ideas regrouped itself independently and anew. The strings seem at this point to be pulled far too tight, and when the list is extended to include new types and their divine patrons, from a tool the matrix becomes an obsession. In particular, the assigning of the unfortunate housewife to a still lower level of reality than the tyrant, which is unsupported by any evidence (it is *not* the case, as Mr. Brumbaugh asserts, that this is "the type of woman whom Plato intends to abolish"; it is only women who are *guardians* whom he proposes to relieve of domestic responsibilities), can only be attributed to Plato as the reflexion of a private prejudice; and the reviewer is free to assert his counter-prejudice that the health and welfare of the state depends more on the prevalence and contentment of this type than on any possible guardian.

On the other hand, there does seem to be something significant in his "Law of Nines" as applied to the whorls and their colours and the sizes of their rims; there is great learning and much enlightenment in his discussion of the celestial machinery (there is a particularly neat reconciliation of the necessitarian model and the emphasis on choice); and considerable subtlety and good sense in his discernment of an "interference between

the facts of mechanics and the allegorical and poetic demands of aesthetic suitability" (p. 189).³

The last and perhaps the most congenial field for Mr. Brumbaugh's methods is the *Timaeus*. In interpreting the construction of the world soul, and the welding together of the geometrical elements, mathematical tables are essential to clarity, and they are faithfully and meticulously forthcoming. Here Mr. Brumbaugh follows Proclus and the tradition closely enough, but warns us of certain neo-Platonic exaggerations. One, of special importance for the interpretation of Plato, is the habit of confusing translatable analogies, in which each of two things compared functions in its context exactly as the other functions in *its* context, and projective analogies, of which "one can only say that any two correlated pairs are connected by relations of the same relational class or type" (p. 211). The neo-Platonist tendency is to interpret all analogies as translatable, and this has the effect of stereotyping a single key pattern for all situations. Mr. Brumbaugh rightly points out that such a procedure does scant justice to Plato's range and flexibility; that it produces absurd results in biology; and that the ratios of the *Timaeus* have the validity the neo-Platonists claimed for them because they do not demand the system of one-one correspondences which the neo-Platonists found in them. On behalf of this view could be cited the distinction between the two kinds of measurement in *Politicus* 287. Applied as no doubt it should be, to the analogy in *Republic* 368 between the large and the small letters, it helps considerably to unstiffen the rigid analogies between the constitution of the soul and the constitution of the city. For the rest, the diagrams illustrating the theory of elements in *Timaeus* 53-56 are more than usually effective, and the treatment as a whole is surer and less controversial. The reason is that what the mathematical illustrations of the *Timaeus* illustrate is mathematics.

³ As for the Sirens, Mr. Brumbaugh and his readers may be interested in the reference in Iamblichus, *On the Pythagorean Life*, p. 82: τετρακτύς ὅσαρ' ἐστὶν ἡ ἁρμονία, ἐν ᾗ αἱ Σειρήνες, "The tetraktys: in other words, the scale of notes, in which are the Sirens." A whole nest of correspondences here awaits Mr. Brumbaugh's attention.

It has been necessary to consider Mr. Brumbaugh's work detail by detail, as it is by his particular investigation of particular passages that it stands or falls. But it is time to attempt a summary.

The objection most likely to be raised to his enterprise is that he is taking far too literally what Plato intended as *jeux d'esprit*. His reply is to cite the passages in which Plato obviously is making mathematical jokes (notably *Politicus* 266) and to invite the reader to note the difference. But not every reader would make the expected response. The consideration which persuades Mr. Brumbaugh that *Politicus* 266 is truly a joke—namely, that the geometrical apparatus is ludicrously overweight for a simple division of species—could be held to apply elsewhere. The reviewer, for one, experiences something of this sense of absurdity in relation to the tyrant's number in *Republic* 587. No doubt Mr. Brumbaugh is right in objecting to the non-mathematical critic's habit of finding jokes whenever he is hampered by his lack of training, and he is on firm ground when he ridicules the mistaking of the *Parmenides* for a joke—as though one of the world's greatest thinkers at the top of his form, conducting one of the grandest, subtlest, swiftest and most conclusive arguments in history, could not be allowed the luxury of romping high spirits. But, as Mr. Brumbaugh knows, Plato is an ironist who lures the literal-minded on, and leaves them at the end of all still uncertain whether they have been fooled or not. Mr. Brumbaugh is for the most part sensitive to Plato's undertones, nuances, and significant ambiguities; but just occasionally his pursuit of an elusive quarry is a thought too solemn, and one can well imagine the smile on the face of the tiger.

On the other hand, nobody who was not prepared to run that risk in a good cause could have stuck to the trail with the tenacity and attention to detail disclosed in this book. On most of the issues raised, no question of joking arises, and on one of them, the Nuptial Number, a sceptical reviewer has been persuaded to be serious by the weight of the evidence. The man who leaves no stone unturned seems amusing to the playboys when the stone he turns has nothing under it. But when he uncovers

the treasure, the laugh goes the other way. Mr. Brumbaugh turns up quite enough of it to laugh last.

Apart from the problem of jokes (and how amused Plato would be to hear that jokes were a problem!), allowance must be made for the distinction between what Plato intended and what he let fall. If I am not mistaken, it receives increasing recognition as the book proceeds. In the early sections the intimations and allusions in the mathematical illustrations are treated as deliberate disclosures. The difficulty about that is that the passages in question will have to be read precisely as Mr. Brumbaugh rightly thinks they should not be read: as mathematical cryptograms, concealing the clues from the uninitiate. For there is no doubt that the passages are difficult, and if they were planned in every detail, then they are deliberately difficult. It is surely preferable, as Mr. Brumbaugh sees in the case of the Divided Line, to treat the difficulty as resulting from a compact illustration indicating two trends at once, or, as in the case of the myth of Er, as due to the double claims of the concept to be expressed and the mathematical symbolism which expresses it. The difficulty of manipulating the parallelisms of an allegory is notorious, and it is just this kind of difficulty which obscures Plato's mathematical illustrations.

It follows that what is needed in wrestling with them is above all the literary insight which is trained to discern below the logical icebergs the warmer and less calculable fluidity of the subjacent currents. It is, in fact, one of the prerequisites, not only for the present study, but for any possible study of Plato, that the critic should respond to the literary form as well as the philosophical content. Unlike the hatchet-faced philosophers who want to be mistaken for natural scientists (an endeavour which, in the absence of laboratories, is as fruitless as it is ill-conceived), Plato conveys his meaning in the twist and turn of his sentences as well as by direct statement. It gives the clue, not once, but constantly, if one asks, Just why did he put it that way round? Why this set of images rather than that? It is this sensitivity to Plato's mode of presentation which sets the work of Julius Stenzel (a Greek language scholar before he was a philosopher) honourably in a class apart.

Now this is something which Mr. Brumbaugh recognizes far more clearly than most, and that is why his work is of such importance. When he writes, for example (p. 293), of an "intentional or unintentional connection between the various images of cycle in the *Republic*," he makes it clear that it is *in either case* the duty of the critic to pursue it. A great deal of his discussion is in fact devoted to bringing out the significance of phrases and metaphors which lie in the background of Plato's conscious utterance. The fact that he listens in at this level acutely and discerningly is, to the reviewer at least, more important than his method for tabulating the conclusions. His long and detailed familiarity with the Platonic texts sometimes leads him into taking more for granted than the reader can follow, sometimes again into magnifying the half-conscious minutiae into conscious commitments; but it also makes him aware of the imaginative currents which carry Plato's successive dialogues over an uncharted ocean. For that we can readily forgive the episode of Atlantis, forget our qualms about the tyrant's number, and even overlook the slur upon Hestia and the housewives. The union of exact scholarship with mathematical and literary imagination is too uncommon to be hailed with anything less than delight.

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JUNG'S THOUGHT AND INFLUENCE

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THE collected works of Dr. Jung are now being published in England and in this country; three volumes have appeared so far.¹ I shall review not only these books but the thought and influence of Dr. Jung in general.

Jung has long been a doctor for mental illness; at Zürich and elsewhere the list of his patients—many of them American—is very large. But he has never been merely a practising physician of mental ills; he has all along been a student of the human psyche, both abnormal and normal. The forces impelling him to his investigations are surely complex. Jung, no doubt, is concerned with therapy—a therapy of the ills not only of particular individuals, but of societies too. Indeed, he is deeply worried over the direction in which our Western culture is proceeding, and, like a prophet, he speaks out with vigor against present trends. But his interest in psychological phenomena goes far beyond the bounds prescribed by the pursuit of practical results. He is also an independent inquirer who seeks understanding for its own sake, and is concerned with extending the boundaries of our theoretical knowledge in psychology. He is a student not only of the individual mind but of culture as well—or, as he would prefer to put it, of the collective mind. Indeed, one of the points we must consider is whether, as has been alleged by some of his critics, Jung sinks the individual into the collective pool of the psyche, there to drown him. The question, in other words, is whether Jung believes that there is a group mind as an entity existing over and above individual minds.

In composing his image of the psyche, Jung has gone for his materials beyond the West to the East, to India and China, and

¹ C. G. Jung, *The Collected Works of C. G. Jung*, tr. by R. F. C. Hull, Vol. 7, *Two Essays on Analytical Psychology*; Vol. 12, *Psychology and Alchemy*; Vol. 16, *The Practice of Psychotherapy* (New York: Bollingen Series, Pantheon Books, 1953-54).

also to Africa. A child of the West, he has traveled, both physically and as a thinker, far beyond the confines of his home. Jung, further, has written books on religion, and he has broad philosophical interests. A physician, a psychologist, a scholar, a student of primitive and advanced culture at once, a critic of present civilization, a prophet and wise man, Jung is one of the leading personalities of our age, casting possibly a long shadow into the future, and a shadow covering a variety of fields.

In this article, I propose to focus attention only on those topics in Jung's doctrine which are of interest to philosophers. We might as well admit right now that there is a sort of war going on between Jung and the philosophical camp—at least those in the latter who make a special point of intellectual rigor. Such philosophers find Jung unclear, unscientific, mystical. Perhaps this attitude is confined chiefly to Anglo-Saxon philosophers; it is also worth noting that poets and other literary folk have generally felt sympathetic to Jung's ideas. In this battle, Jung has not been a pacifist; he returns the fire. Perhaps he was the first to fire in this engagement. For Jung restricts—seems even to deny—the ability of the intellect to understand psychological phenomena, holding that the fixed concepts of the former are inadequate for representing the fluid nature of the latter. And it is paradoxical—but perhaps all too human—to find Jung complaining that philosophers and other intellectuals are unduly abstract and formalistic, when on Jung's own view, since they are committed intellectuals, that is what they cannot help doing.

We have, however, been digressing, and, as we will see below, Jung does ascribe positive values to the intellect. The class of topics of interest to the philosopher certainly includes Jung's methodology; also his general ontology (if any) and his position on religion. We would like, of course, to know Jung's conception of the psyche; for instance, what is its relation to the body, and what are its own principles of operation? From his psychological investigations Jung draws conclusions about the good life both for the individual and society; such normative judgments are important and should be examined. But it is difficult to know where to draw the line when we come to Jung's *detailed* statements concerning psychical phenomena; for instance, about

complexes, types and so on. Obviously, there is no space for a résumé of Jung's psychology, nor is this the place for it. Yet without some detail, without some of Jung's precise observations and discriminations, any account would risk being general to the point of vacuity.

Contemporary opinion has singled out three names as outstanding among the founders of psychoanalytic study: Freud, Jung, and Adler. Since, in this trinity, Freud is regarded as *the* founder (the Father) of the doctrine (with Jung perhaps representing the Son in the Trinity), it is important to compare the two. Despite the fact that Jung is the younger man in this relation, it is not correct to think of him as a disciple of Freud. Jung had begun his study of psychology before he met Freud; his interest in and his conception of the subject were independently achieved. Thus, despite the fact that Jung has been strongly influenced by his talks with Freud, his meeting with the latter must be regarded as no more than an episode in Jung's life, albeit a momentous one. For, certainly after they parted, Jung proceeded to construct his theories in an independent fashion and on the basis of his own observations. The differences in doctrine are striking indeed. One way of describing these is to say that they are analogous to the differences between a positivist and a metaphysically-minded philosopher. Freud aims to rely on the methods of the natural sciences and their modes of verification. He conceives of psychological phenomena in a deterministic and mechanistic fashion; his way of understanding the present is by going into the past; in short, he looks to efficient causes alone.

Jung is more speculative; by this I do not mean that he constructs theories without evidence. Jung indeed calls himself an empiricist and insists that he bases his results on experience. (He states explicitly that he is a scientist, not a philosopher.) But then there are many speculative philosophers (let us call them metaphysicians) who also rely on experience for their theories. My point is that what they mean by experience is wider than what the natural scientist means by that term. In addition—and this is surely true of Jung—their criterion for the rational justification of a theory is not that of a simple conformity to the canons of verification recognized by the natural scientist. Finally, Jung is

certainly not a mechanist; he thinks of the psyche as governed by future goals, and of psychical energy as a striving toward ends. "The psychic process is not just a causal sequence, but is also a process with a teleological orientation" (*Two Essays*, p. 128). At least in the field of psychological phenomena, Jung is Aristotelian in outlook. For instance, dreams express an intention of the unconscious mind to report to and guide the person.

Thus, in his therapeutic procedure Jung lays much less stress on the infantile experiences of the past than does Freud; Jung is much more intent on discovering a goal toward which the patient's efforts are to be re-directed. "Freud emphasizes the aetiology of the case, and assumes that once the causes are brought into consciousness the neurosis will be cured. But mere consciousness of the causes does not help any more than detailed knowledge of the causes of war helps to raise the value of the French franc" (*The Practice of Psychotherapy*, p. 31). Later (p. 33), Jung speaks of appealing to the patient's sense of *values*. It stands to reason that Jung's method cannot yield results as exact as Freud's; goals are by no means as obvious as particular events.

Freud is a reductionist; Jung is not. Jung does not construe "spiritual" impulses and products, such as poetry and religion, as oblique expressions of the sexual drive. For that matter, Jung does not construe sex in physiological terms alone, either. And, while central, the sexual urge is for him but one of a variety of factors in the psyche. Jung accuses Freud of taking into account the "shadow" side only, adding that, after all, the essential thing is not the shadow but the body that casts it. Speaking of the doctrines both of Freud and of Adler (with the latter's stress on the drive for power), Jung writes:

They are destructive and reductive. They say to everything, you are nothing but . . . They explain to the sufferer that his symptoms come from here and from there . . . The human psyche cannot be explained solely by reduction . . . A man is only half understood when we know how everything in him came into being . . . Life does not have only a yesterday . . . life has also a tomorrow, and today is understood only when we can add to our knowledge of what was yesterday the beginnings of tomorrow . . . The symptoms of a neurosis are not simply the effects of long-past causes, whether "infantile sexuality" or the infantile urge to power; they are also attempts at a new synthesis of life—unsuccessful attempts, let it

be added in the same breath, yet attempts nevertheless, with a core of value and meaning. (*Two Essays*, p. 45)

Although Jung's holistic and teleological interpretation of psychological processes seems to the writer more adequate than Freud's reductive and atomistic view, it is not difficult to understand why, in this country, many therapists prefer Freud's system to Jung's. Freud provides a more explicitly formulable and a more definite technique, just because his method, being atomistic, is relatively simple. In addition, Freud's doctrine is more in harmony with the regnant scientific—perhaps I should say positivistic—language and orientation. Jung's richer wisdom cannot so easily be articulated in a general formula for the guidance of the practitioner.

Besides these points of difference with respect to the general conception of psychic processes, there is a striking and fundamental difference as to the nature of the unconscious. Freud regards the unconscious as, so to speak, no more than a waste-basket into which elements from the conscious mind are deposited. The point is that, on Freud's view, the unconscious has no independent being; it consists of residues from the conscious mind. Jung distinguishes between the personal and the collective unconscious. The former is wholly a repository of repressions from the conscious mind, but the latter has an autonomous existence and an autonomous activity manifested in the construction of symbols and archetypes. Not only is the unconscious independent of the conscious mind for its existence; genetically the latter depends on the former. In the order of evolution, the unconscious precedes the conscious; the conscious mind has developed from the prior unconscious mind, just as mind in general has evolved from life.

Furthermore, for Freud, the unconscious is a negative force, a subterranean cellar inhabited by skeletons. To be sure, its existence must be acknowledged and coped with, but only because it is unavoidably there. For Jung, the matter is more complex. The collective unconscious is capable both of destruction and creation. When properly recognized and balanced with consciousness, it is a positive force, making for self-realization. The unconscious is not to be identified with infantilism; in its own

fashion, it can be wise. In the unconscious we find not only the so-called lower impulses but the higher ones such as the moral and religious strivings. Myths—which are, so to speak, *collective* dreams—represent insights of the unconscious about the good life and the cosmos. Thus, for Jung, the unconscious contents are not something to get rid of, not something to become aware of simply for the purpose of diminishing their force; they are archetypes from which to learn.

Jung feels himself closer to Eastern than to Western thought, quoting frequently from Indian and Chinese sources. He holds that the West has focused primarily on the problems of how to master the forces of the physical world, while, on the contrary, the East is better informed about the psychic forces and on how to control them. But despite the fact that Jung's ideas are not derived from Greek thought, they have important affinities with the latter. After all, the ancient Greeks were more concerned with self-knowledge and power over self than with technology. As Jung himself recognizes, there are significant analogies between his and Heraclitus' doctrine of the relativity of opposites. As for the "shadow" side of human nature (on which there is no difference of opinion between Freud and Jung) we may remind ourselves of Plato's phrase that "in all of us, even those that are the most respectable, there is a lawless, wildbeast nature which appears in sleep"; and of Plato's statement that we dream of "incest or any other unnatural union, or of parricide, or the eating of forbidden fruit" (*Republic* 571-2).

Leaving comparisons aside, let us now consider Jung's view of the psyche. The psyche is not an epiphenomenon of the body. Jung speaks of two poles in the psychical life; the first has a physiological basis or causation, but the other is independent and causative.

There is not the slightest doubt that the physiological factor forms at least one pole of the psychic cosmos. The instinctive and affective process, together with all the neurotic symptomatology that arises when these are disturbed, clearly rests on a physiological basis. But, on the other hand, the disturbing factor proves equally clearly that it has the power to turn physiological order into disorder. If the disturbance lies in a repression, then the disturbing factor . . . belongs to a higher psychic order. It is not something elementary and phy-

siologically conditioned, but, as experience shows, a highly complex determinant, as for example certain rational, ethical, aesthetic, religious, or other traditional ideas which cannot be scientifically proved to have any physiological basis. These extremely complex dominants form the other pole of the psyche. Experience likewise shows that this pole possesses an energy many times greater than that of the physiologically conditioned psyche. (*The Practice of Psychotherapy*, p. 77)

I think we may safely conclude that for Jung the psyche—or at least part of it—is an independent and irreducible reality, providing material for an autonomous science of psychology.

Jung's conception of the psyche is dynamic; he thinks of it as an activity or energy, otherwise termed a psychic libido. Such energy arises from the polarity of opposites, of which Jung gives several examples: extrovert-introvert, love and hate, good and evil, anima-animus, persona-shadow, and more fundamentally, conscious-unconscious. There can be, he says, no energy without a pre-existing polarity. Psychic energy exists because of a tension between opposites, such that when one of these is stressed, there is a movement to the other; but when a balance between the two is achieved, progression is made possible. As we have seen, the psyche is divided into conscious and unconscious; in turn the conscious mind looks, on the one hand, to the outer world of society and nature, and, on the other, to the inner world of the unconscious. (Hence the familiar contrast between extrovert and introvert.) Again, as we have noted, the unconscious is, on the one hand, personal and, on the other, collective. To speak of the first: The psyche has to make an adaptation to society, this being the process of what is called civilizing the self. There are all the demands which society makes of us; and these expectations, when accepted by the individual, constitute what Jung calls his persona (which is the Latin word for mask). There are not only the *general* social expectations, more or less the same for all; there are also special ones, depending on one's profession, such that an individual is expected to play a particular role among his fellow-men. If he is a businessman, he is expected to behave like one; if the individual is a married woman, she puts on the appropriate persona. In other words, the individual has to *appear* in a certain fashion, no matter what he is, and to appear such even to himself;

this necessity imposes compromises and repressions. A man must appear mature even though he be childish; he must appear good (to himself as well) and thus repress his evil impulses. In this fashion is the personal unconscious developed; it consists of the "shadow," which is the unconscious counterpart of the conscious persona. When the shadow is ignored, when, for instance, the man identifies himself wholly with his civilized "good" side, then trouble arises in the form of neuroses. It is the part of wisdom to recognize the shadow (the infantile or negative part of oneself) as an essential component of the personality, with which the individual must come to terms. And when we come to terms with the enemy, we find that he becomes friendly and a constructive force. Incidentally, Jung distinguishes between repression and suppression. What is (and should be) suppressed is the sum of criminal tendencies; whereas repression involves tendencies which "are not indubitably anti-social, but are rather unconventional and socially awkward" (*Psychology and Religion* [New Haven, 1938], p. 91).

The notion of the collective unconscious bristles with difficulties. The unconscious can never be conscious; how then can it be known to exist? Then again, in what sense is it collective? Does Jung mean that there is a super-individual psyche of which the individuals are phases or parts? I will take up this second question later. For the moment I will say this: we speak of tradition and culture, which may be designated roughly as the collective *conscious* mind. But to speak of tradition and culture as something which overflows individual boundaries and which any particular person finds rather than originates, is not necessarily to imply the existence of a collective mind over and above individual minds. In short, we can account for the existence of tradition and culture solely by reference to individual minds and their interactions. Likewise we can say, at least provisionally, that the concept of a collective unconscious *per se* does not entail the assumption of any mind beyond that found in particular individuals.

I return to the first problem: how can the unconscious be known to exist, given that it can never enter consciousness, i.e., be experienced? According to Jung, the collective unconscious is an assumption, a hypothesis invoked to explain conscious phenom-

ena such as fantasies, actions, moods, psychoses and dreams (although it is doubtful whether dreams can be called conscious phenomena). The validity of the assumption is determined by the satisfactory way in which it explains these phenomena. Yet the difficulty may be pressed; although we never see it, we assume that the moon has another side. However, the other side of the moon is at least theoretically observable, and only physical or mechanical facts stand in the way of our observing it. But the unconscious is not *possibly* observable. Again, physical entities like electrons and protons are unobservables postulated for the purpose of accounting for observations. Perhaps this analogy is a better one, although I am not sure whether the microscopic physical entities are theoretically unobservable. It may be said that, even so, the total meaning of such entities is exhausted in their predictive value for observation; such a statement, however, would belong not to science but to meta-science. There is the realistic and there is the positivistic construction of hypothetical entities, and Jung's position is realistic. In sum, the conception of the unconscious has the validity which belongs to any postulated entity by virtue of the fact that it explains phenomena in satisfactory fashion.

The two most important manifestations of the collective unconscious are dreams and myths. Incidentally, Jung does not regard dreams as necessarily wish-fulfilments, for in dreams the unconscious may provide criticism of wishes in terms of the psyche's goal. Again, the interpretation of dreams, as indicating what the unconscious is saying, is a matter of *hypothesis*. Yet, that dreams have their own meaning, that they are saying something, Jung has no doubt. Since we cannot call on the unconscious directly to verify our interpretation, how can we know that the interpretation is correct? This is a complex matter indeed, and I will confine myself to those aspects of it which have a relevance to methodology. Jung's conviction that dreams are "saying something" arises from his study of not one but many dreams had by a single person. He finds that dreams in their temporal sequence have a common, although developing, pattern. *What* the meaning is, is a matter of conjecture as we have seen, but the conjectures may be tested. In the first place, there is the test of what I will call coherence. "It is as if there lay before us not a single text, but a

large number which throw light from all sides upon the unfamiliar terms, so that the reading of all the texts is sufficient in itself to clear up the difficulties of meaning of each single one . . . Certainly, the interpretation of each single passage is essentially *conjecture*; but the course of the entire series gives us all the necessary supports by which immediately to correct possible errors in preceding parts" (*The Integration of the Personality* [New York, 1939], p. 101). Thus, the interpretation of dreams is analogous to the process of decoding. Coherence is not limited to a comparison of dreams of one and the same person. Light is thrown also by a comparison of the total sequence of dreams with myths and archetypes.

Secondly (and inseparable from the first), a test is found in the dreamer's own response to the interpretation offered to him. If the interpretation "clicks" with him, if it comes to him with a sense of significance and conviction, this is evidence in favor of the correctness of the interpretation. Obviously, we are not here provided with scientific criteria of evidence. The sense of conviction is too personal and subjective; moreover, it may happen that when the dreamer (especially if he happens to be a patient) rejects the interpretation, such a rejection is explained as due to "resistance." If so, obviously the interpreter can never be wrong. But this is putting the matter extremely. Granted that the interpretation can never be more than probable, it is possible to test the factor of "resistance," and there is always the reference to the context of the series of dreams.

Jung has made significant contributions to cultural anthropology through his study of myths. The correspondence which he discovers between dream images and those of myths leads him to the conclusion that the collective unconscious reveals itself in the great myths no less than in dreams. Myths are the images of the cosmos unconsciously developed by a tribe or people; for instance, myths centering on the rising and setting of the sun, or myths arising from an observation of the rhythm of the seasons and taking the form of the drama of suffering, death and rebirth. Here we come to the archetypes of the collective unconscious, which are defined as patterns of symbol-formation, common through different temporal epochs and over different individuals

and groups. Such archetypes are those of the earth mother, the old wise man, the hero, the child, God. These archetypal images and these myths should not be supposed to represent an inferior mode of knowledge, or an infantile level preceding mental development. They make their own contribution to knowledge, and, in addition, are forces which help canalize the libido. Their universality expresses the double fact that the external world is the same for all at all times and that there is a basic psychical structure for all human beings.

Are the archetypes innate to the mind, or are they products of experience? There is certainly a strong empirical element in the archetypes, for their images represent objects discovered in experience. Nevertheless experience provides only the material on which the unconscious imposes its own form. The unconscious both borrows and selects data from experience. As Jung puts it, the archetypal images are both repositories of man's experience and also prior conditions for it. And although, as we have said, the unconscious cannot be conscious, there is obviously a constant interplay between the two spheres. We have noted the manifestations of the unconscious in consciousness. We have also noted the contribution of experience to the formation of archetypes. There is the added linkage consisting of the fact that we remember, while awake and conscious, the dreams we had while asleep. The unconscious appears in dreams, and dreams appear to consciousness (through memory).

But let us also recall that the unconscious is prior to the conscious mind, that the latter is a product of the former, and that the unconscious mind continues to function together with consciousness once the latter has emerged. Consciousness has a center, namely the ego, but the unconscious is "boundless" and indeterminate. One might, I should think, compare it with Plato's *Apeiron* (Unlimited). Nevertheless, says Jung, we must not think of the unconscious altogether as a "chaotic accumulation of instincts and images." Although the unconscious has no ego-center, it must contain the potentiality of one, since the latter emerged from the unconscious (*The Integration of the Personality*, p. 13).

The unconscious thinks, but it does not think conceptually;

it thinks imaginatively and dramatically. Thus its ideas are fluid and vague but richer in content than can be embraced in conscious concepts. Dogmas—for instance religious dogmas—arise from a conscious conceptual formulation of archetypal images. Such a transformation is usually unfortunate, for dogmas represent a freezing of the fluid image; moreover concepts are never adequate to the concreteness of the image. It would seem that there is a real correlation between unconscious and poetical thinking, since both deal in images. Moreover, according to Jung, the creative powers of the mind come from the unconscious. Nevertheless, Jung most certainly would not "reduce" poetry to unconscious imaging, although he would probably say that no poet can function without calling his unconscious into play. For, at most, unconscious imaginings supply material to the poet, but the poetic discipline is something else again. The poet imposes his own order upon the materials supplied by the unconscious. Thus, while it is true that Jung has on many occasions interpreted epic and other poetry, and other works of art, in terms of the archetypal images of the unconscious, he has rejected the view that such an interpretation might provide a clue to the literary-esthetic merit of the artistic product.

What does Jung mean by speaking of the unconscious as *collective*? He vigorously denies that he means to assert the existence of an over-soul, or of a group-mind. The psyche, whether conscious or unconscious, exists only insofar as it is found in particular individuals, without any remainder. The unconscious is collective solely in the sense that it is *common*, that it is *universal* among individuals. Individuals are both different and alike; the personal unconscious reflects the diversity while the collective unconscious represents their similarities. There is a specific or primordial or essential nature found in all men. "The rational man, in order to live in this world, has to make a distinction between 'himself' and what we might call the 'eternal man.' Although he is a unique individual, he also stands for 'man' as a species, and thus he has a share in all the movements of the collective unconscious" (*The Practice of Psychotherapy*, p. 291). In virtue of this identity of structure, men react alike to circumstances, no matter how separated in space or in time they may be.

Here is Jung's phrase for the collective unconscious: "a universal similitude or identity of the basic structure of the human psyche" (*The Integration of the Personality*, p. 50). Yet this does not preclude a state of affairs in which the collective unconscious is markedly different from people to people. For, as we have seen, the unconscious borrows from experience in forming its archetypes, and different peoples have different experiences.

But the matter is not so simple. Jung finds in his patients' dreams contents which are not derived from their own experience or even from their tradition. There is a vertical similarity in time, between present and past; and what is more, a similarity in terms of images and other contents, not derived from present personal experience. The collective unconscious contains ancestral, pre-infantile memories, going as far back as man's animal ancestry. In short, my unconscious has images now which reflect nothing of my own learning, whether from observation or from report; *it has them because it remembers something which my ancestors experienced*. But how can I recall experiences of my ancestors unless, in some sense, my mind coincides with theirs?

Jung's solution is to refer to biological inheritance. Let us emphasize the word "biological." According to Jung, what I inherit is not the psychical experiences of my ancestors but the correlates of these experiences in the structure of the brain. It is not the actual "representation" which is inherited, but a certain "possibility of regenerating the same or at least similar ideas" (*Psychology and Religion*, p. 112). And this possibility arises from the fact of physiological inheritance (*Two Essays*, pp. 135, 144, 145). "As the body is a sort of museum of its phylogenetic history, so is the mind" (*The Integration of the Personality*, p. 25). Thus Jung applies the familiar recapitulation theory to the mind. To summarize: A person's brain is shaped and moulded by experience, and such a shaping and moulding is inherited by his progeny. Hence the fact that now I have in my unconscious an image bearing no relation to my experience (or to what I have otherwise learned), an image which indeed reflects the experience of my ancestors, human and even animal, in no wise entails that I share a common mind with them.

In this fashion, Jung is enabled to hold fast to his conviction

that the collective unconscious exists only in this or that particular psyche. However he does this by having recourse to the Lamarckian theory of the inheritance of acquired characteristics—a theory which, I believe, is rejected by the majority of reputable biological scientists today. I am not now questioning Jung's observations; I am questioning the theory by which he explains them. It seems to me that Jung's observations, rather than being interpreted in terms of the discredited Lamarckian theory, should be accounted for by a conception of memory like that offered by Whitehead. I am now referring to Whitehead's doctrine of prehension, according to which the percipient event prehends its whole past—namely the totality of past events—from a certain perspective and under certain limitations. Nor does such a Whiteheadian view entail any abandonment of the notion of an individual entity with its own self-direction and subjective aim.

I doubt that Jung would call himself a philosopher, but in so far as he is one, his doctrine is that of the relativity of opposites; in a sense, then, it is a dialectical philosophy, according to which opposites require each other—for instance, the conscious and the unconscious, the noble and the ignoble, the female and the masculine factors, *yan* and *yin*. Although I have already called Jung a realist, he himself is very wary of committing himself to a metaphysical position. He is indeed certain of the reality of the psyche and of an independent physical world, but it is hard to say whether he believes in any other kind of reality, such as God, for example. Jung is convinced of the importance of religion, which he regards as universal to all mankind, and as a valuable, perhaps indispensable, component of the good life. He finds that God is an archetypal image in the unconscious of all peoples. He even states that God is a psychological reality. But what does this last statement mean? Does it mean that God is real in the sense in which the psyche is real? Or does it rather mean that God is an image within the psyche? And would a religious person who believes in God be satisfied to be told that God is no more than an image in his and other men's psyche? But this way of putting the matter is unjust to Jung. He is neither asserting nor denying the independent existence of God. As a psychologist he would be

overstepping his bounds were he to convert psychological attitudes and archetypes into ontological revelations. Thus:

Psychology as a science of the soul has to confine itself to its subject and guard against overstepping its proper boundaries by metaphysical assertions or other professions of faith. Should it set up a God, even as a hypothetical cause, it would have implicitly claimed the possibility of proving God, thus exceeding its competence in an absolutely illegitimate way . . . We simply do not know the ultimate derivation of the archetype any more than we know the origin of the psyche . . . Nothing positive or negative has thus been asserted about the possible existence of God . . . (*Psychology and Alchemy*, p. 14)

When today so many scientists, psychologists or physicists, unreflectingly transform their scientific statements into metaphysical assertions, Jung's refusal to commit himself surely is evidence of intellectual integrity. As we have seen, in his own field of psychology he has strong opinions about the psyche itself, namely that it has a teleological structure, and that its movement is dialectical, from opposite to opposite.

What of Jung's cognitive method? Undoubtedly many professional philosophers regard him as mystical and many professional psychologists as unscientific. As for the second point, surely Jung, while insisting that he is a scientist, is not even trying to engage in the task normally carried on in our psychological laboratories. Moreover, who can say that he is wrong in thus disengaging himself from this task? For experimental psychology has more and more been moving into the field of physiology, thus tacitly admitting that its methods are not suitable for the exploration of psychical phenomena. Let us now face the problem of Jung's alleged mysticism. According to Jung, the function of consciousness (which is close to the intellect) is to differentiate and to analyze, while that of the unconscious is synthetic. The phenomena in the unconscious psyche are relatively indeterminate. Thus, in discussing the total psyche, Jung is averse to talking in analytical terms alone. In general, Jung's language is "holistic," not analytic, not employing sharp and exclusive concepts; the use of such a language is justified in terms of his doctrine of the psyche. Thus, once more, his language is dialectical, one in which a term does not exclude its opposite but,

in fact, entails it. The knowledge provided by the unconscious mind is formulated in symbols and images. This is a wisdom both about the psyche and the good life. So too, Jung is inclined to express what he has learned from the unconscious in images whose boundaries are blurred, which are concrete rather than abstract, fluid rather than fixed. To repeat, Jung's cognitive procedure is not a result of the idiosyncrasy of his mind; it is based upon his view of the nature of psychical reality. For instance, there is no reason to suppose that he objects to the experimental, quantitative and analytical methods employed by scientists when dealing with the physical world.

And now, in conclusion, let us turn to Jung's conception of the good life. Life is lived in individuals, and the good life consists in the perfecting of the individual. A person must accept responsibility for himself; he is not subject to fate. The group has no freedom of choice; only the individual has it. Thus the moral task should not be left in the hands of the state. "The indispensable condition for this [the conscious community] is conscious freedom of choice and individual decision. Without this freedom and self-determination there is no true community" (*The Practice of Psychotherapy*, p. 108). The prevailing tendency of the state to take over the totality of life under its control can lead only to the release of the underworld in the inner man. "Exactly who is the State? The agglomeration of all the nonentities composing it. Could it be personified, the result would be an individual, or rather a monster, intellectually and ethically far below the level of most of the individuals in it, since it represents mass psychology raised to the n -th power" (*The Practice of Psychotherapy*, pp. 105-6).

At the present we are suffering from an overrating of the conscious and intellectual functions of the psyche. Not that these are not valuable, but that we have ignored their opposite, namely the unconscious. Especially the educated man of today ignores his instinctive roots and is losing contact with the earth. Hence there has come about a deadening of images, a loss of vitality in myths, with a consequent sense of the meaninglessness of life. To some degree, Protestantism is to blame for this deterioration. Our increasing sophistication—and civilization itself—have

brought about a conflict between the conscious and the unconscious with resulting anxieties and neuroses.

But it would be a grave error to suppose that Jung is all for liberating instincts; if he talks so much of the need that we should take account of our instinctive and impulsive nature, it is only because he believes we have gone to the other extreme. The eros and the logos are coordinate factors in the psyche. Instincts should be controlled for higher ends. There is a moral order and a moral nature; morality is not something imposed from without (*Two Essays*, pp. 19, 26).

The moral ideal is one of individuation; it is also one of wholeness and completeness; in other words it is the ideal of individual self-realization. Surely this is not unlike Plato's norm of the health of the soul construed as an inner justice and harmony. For Jung, wholeness consists primarily in the fact that the negative "seamy" side is recognized along with the positive "good" side, and that the unconscious is admitted as a citizen of the inner city along with the conscious. Each has its place; the unconscious initiates, but the conscious selects and decides. This reconciliation of opposites cannot be accomplished without suffering, but, as Jung says bluntly, suffering is not a disease. Suffering is an inevitable phase in the process of achieving health. The reconciliation of these opposites is established when a "mid-point" in the total personality has been attained. The conscious mind has the ego as its center, but the ego is not the "mid-point" which Jung has in mind. In the approximation of conscious with unconscious a new equilibrium, a new centering of the personality, is achieved, in a point midway between the conscious and the unconscious.

The concept of the harmonious and complete individual should not be confused with the popular notion of the "normal" human being. To become normal, says Jung, is the ideal of those who are unsuccessful, who are below the general level of adaptation. But for those of more than average ability, the compulsion of being normal leads to boredom and sterility. "Consequently there are just as many people who become neurotic because they are merely normal, as there are people who are neurotic because they cannot become normal." The deepest need of the former is

"really to be able to lead 'abnormal' lives" (*The Practice of Psychotherapy*, p. 70).

It will have been noted that the synthesis which constitutes the good life includes consciousness. Consciousness is a development from the unconscious; it marks a step in the evolutionary process. Now intellect is a function of consciousness, and intellect means conceptual analytical thinking as consciousness means differentiation. Such cognitive analysis, such differentiation, is a positive contribution in the total life of the person.

A philosopher who is a stranger to Jung's thought is apt to find much of it queer, incredible and even absurd. For the most part, this absurdity can no more withstand reflection than the supposed absurdity of the idea that people could actually inhabit the antipodes. And, to press the simile, Jung does inhabit and explore the antipodes. He has opened up to us a strange new world, and if we judge it solely by comparison with our own familiar haunts, we will receive his reports with incredulity. For a valid and adequate assessment, it is necessary that the reader should study especially Jung's detailed interpretation of dreams. For myself, I find significant similarities between Jung and Whitehead—similarities not so much of doctrine (given that their interests lie in different directions) but of mental attitude. Both are distrustful of explicit formulations, and both can be very obscure. As Whitehead has attempted a comprehensive metaphysical doctrine, so has Jung attempted a comprehensive theory of the psychical sphere. Both are greatly wise in their own domains.

It is a commonplace that the more a man knows about his own field, the more modest is he about his mastery of it. This is especially true of Jung. As a doctor he will listen to the patient in order to learn from him, as much as in order to teach him. He will approach each case as a new one, as unique, without preconceptions. Nor will he have pre-judgments as to the cure; he will not even be sure that a cure is the *best* thing for the patient. Sometimes a neurosis plays an obscurely useful part in the psychical economy of the individual. The following quotation will indicate Jung's attitude as I have been describing it:

We cannot rate reason high enough, but there are times when we must ask ourselves: do we really know enough about the destinies of individuals to enable us to give good advice under *all* circumstances? Certainly we must act according to our best convictions, but are we so sure that our convictions are for the best as regards the other person? Very often we do not know what is best for ourselves, and in later years we may come to thank God from the bottom of our hearts that his kindly hand preserved us from the "reasonableness" of our former plans. It is easy for the critic to say after the event, "Ah, but that wasn't the right sort of reason!" Who can know with unassailable certainty when he has the right sort? Moreover, is it not essential to the true art of living, sometimes, in defiance of all reason and fitness, to include the unreasonable and the unfitting within the ambiance of the possible? (*The Practice of Psychotherapy*, p. 252)

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A PHILOSOPHICAL CRITIQUE OF SOVIET MARXISM

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It is perhaps strange—in view both of the importance and the philosophic vulnerability of the subject—that no definitive critical analysis of the ontological, cosmological, or methodological foundations of “Marxism-Leninism-Stalinism” has yet been produced. The recent studies of Bocheński¹ and Wetter,² each excellent in its way, are primarily expository rather than critical. Bocheński's critical comments, while often incisive, are extremely brief; and Wetter, though he provides an illuminating survey of historical antecedents and sources, confines himself to very general criticisms. In contrast, the work under review³ makes exposition of Marxist doctrine preliminary and ancillary to an extremely searching and informed critique. That this important

¹ I. M. Bocheński, *Der sowjetrussische dialektische Materialismus* (Berne, 1950). (I am told that an English translation of this work has been completed but has not yet found a publisher.)

² Gustav A. Wetter, *Der dialektische Materialismus. Seine Geschichte und sein System in der Sowjetunion* (Vienna, 1952). (An English translation is to be published by Routledge & Kegan Paul in London and by Praeger in New York.) I have discussed this and the preceding work in detail elsewhere: for Bocheński, see the *Journal of Philosophy*, XLIX (1952), pp. 123-31; for Wetter, see *Erasmus*, VII (1954), cols. 201-05. Unfortunately, in the latter review a printer's error resulted in the mutilation of a sentence by the dropping of an entire line (col. 204). The sentence in question should have read as follows: “The author lists among the positive features of dialectical materialism: its defense of the autonomy of philosophy (versus positivism), its epistemological realism (versus idealism), its intellectualism (versus ‘sense-datum’ empiricism), its recognition of qualitative differences in nature (versus reductionism), and its essentially sound theory of concept-formation as abstraction (versus conventionalism).” It should perhaps be added that I do not agree with Wetter in finding all of these virtues in Soviet Marxism (they are all points of contact with Thomism).

³ B. Petrov, *Filosofskaya nishcheta marksizma* [*The Philosophic Poverty of Marxism*] (Frankfurt am Main: Verlag “Possev”, 1952). Page numbers given in parentheses in the text will refer to this work.

book has thus far been wholly ignored by both European and American philosophers must be attributed to the philosophically irrelevant barrier of language.⁴

"Professor B. Petrov" is actually the *nom de plume* of Boris Petrovich Vysheslavtsev (1877-1954), a professor of philosophy in the Faculty of Law at Moscow University from 1917 to 1922, well known in Russian émigré circles (though as yet little known beyond them) as the author of a number of technically competent and stylistically brilliant studies in philosophy and psychology. His last published work, *The Crisis of Industrial Civilization: Marxism, Neo-Socialism, Neo-Liberalism*,⁵ is a significant contribution to social philosophy. Vysheslavtsev is distinguished by a scholar's intimacy with the philosophic doctrines of Kant, Fichte, Hegel, Feuerbach, Marx, and Lenin, together with an imaginative and disciplined command of at least the major contemporary developments in sociology, psychology, economics, and jurisprudence.

His attack upon dialectical materialism is two-sided: (1) On the one hand, he shows convincingly that on many crucial philosophical questions Soviet dialectical materialists take no clearcut position, but instead systematically ignore or confuse issues and distinctions. (2) On the other hand, he examines specific theses — in those cases where a clearly defined position can be discerned,

⁴ To date it has been reviewed (briefly) only in the Russian émigré press—by Professor V. V. Zenkovsky in *Vozrozhdeniye* [Renaissance] (Paris), XXXI (1954), pp. 171-72.

⁵ *Krizis industrialnoi kultury: marksizm, neosotsializm, neoliberalizm* (New York: Chekhov Publishing Company, 1953). Vysheslavtsev characterizes his own position as a "Neo-Liberalism." This book has been widely and vigorously discussed in Russian émigré journals, e.g., by Professor N. S. Timasheff, et al., in *Novy zhurnal* [The New Journal] (New York), XXXIV and XXXV (1953). (Vysheslavtsev's reply to his critics appeared in Vol. XXXVIII [1954].) It also contains incisive strictures upon classical Marxism (Pt. I), but they are directed almost entirely at its economic rather than philosophic tenets.

For a general account of Vysheslavtsev's philosophic writings (prior to 1952) see V. V. Zenkovsky, *A History of Russian Philosophy*, tr. by G. L. Kline (New York and London, 1953), pp. 814-19. Professor Zenkovsky has also published an article (in Russian) surveying Vysheslavtsev's philosophic contribution in *Novy zhurnal*, XL (1955), pp. 249-61. An appreciation will also appear (in English) in the *Russian Review*.

often with the aid of a preliminary resolution of surface ambiguities—and shows them to be (a) self-contradictory, (b) systematically inconsistent with other theses of dialectical materialism, (c) contravened by relevant empirical evidence, or (d) without explanatory power. In what follows, I shall focus attention upon (2), although the author himself makes at least equal use of (1).

Vysheslavtsev argues (using Stalin's "Dialectical and Historical Materialism," 1938, as his basic text) that, for contemporary Marxism * "there are, in essence, no problems at all," since everything is regarded as "in principle, already solved" (p. 9). Among the major philosophic problem which Soviet Marxists ignore are the mind-body problem and the problem of values. In fact, Vysheslavtsev notes, Soviet Marxism, although it calls itself "dialectical," is conspicuously lacking in dialectical development, having been "bogged down in its theses" for more than a century. I shall consider in turn the author's criticisms of (I) Marxist dialectic, (II) ontological materialism (with some attention to epistemology), and (III) the Marxist theory of society and history.

I

Vysheslavtsev differs from other critics of the Hegelian-Marxist dialectic in accepting the term "dialectical" to characterize his own position. Indeed, he insists that the discursive community requisite to fruitful criticism is best provided by the "dialectical principle"—common not only to Hegel and Marx, but also to Anaximander, Heraclitus, Socrates, Plato, Aristotle, and Plotinus—which he himself acknowledges. Unfortunately, Vysheslavtsev never makes wholly clear what he means, positively, by dialectic

* Vysheslavtsev uses this expression frequently and sometimes (as in the title of his book) employs the single term "Marxism" to mean Soviet "Marxism-Leninism-Stalinism." There is much to be said for Zenkovsky's alternative practice of reserving the term "Marxism" for Western and Menshevik Russian writers and using the term "Neo-Marxism" to characterize Russian Marxism of the Leninist (and Stalinist) variety. (Cf. Zenkovsky, *op. cit.*, ch. XXV.)

in this (evidently rather broad) sense; but he offers a negative characterization by explicitly repudiating both the dialectical "laws" enunciated by Hegel and Engels and the Hegelian-Marxist "rejection" of the laws of identity, contradiction, and excluded middle.⁷

The dialectical principle of Marxism-Leninism, according to the author, may be reduced to three theses, all of which are false: (1) All opposites issue in contradiction; (2) the resolution of contradictions is always smooth and "successful"; and, closely related to this, (3) the clash of antagonistic opposites necessarily results in development and progress, in both nature and history, but especially the latter (cf. p. 26).

(1) In fact, Vysheslavitsev retorts, the relations between opposites may be of three kinds: (a) contradiction or antagonism; (b) a harmonious relationship resulting from the resolution of (a); (c) a "neutral" relationship characterized neither by (a) nor by (b). Examples of the latter are "part-whole," "left-right," "cause-effect"; and these examples of non-contradictory opposites invalidate thesis (1). It is to be regretted that Vysheslavitsev here takes "opposite" as a primitive requiring, at most, implicit definition.⁸ Furthermore, the examples given (as well as the tenor of other passages) suggest that he is acquiescing in Hegel's blurring of the distinction—quite understandable within the Hegelian ontology, which makes the realm of being coterminous, in a sense, with the realm of discourse—between logical contradiction and real antagonism or conflict. Marxists, of course, follow Hegel in using the single term "Widerspruch" (literally translated into Russian as "protivorechiye") to designate both, failing to note the difficulties generated by the transposition of the notion of "real contradiction" into a materialist ontology. In one

⁷ In general, Vysheslavitsev writes, Marxists have neglected what is of most value in Hegel—his philosophy of culture and his historical phenomenology of *Geist*; but their dialectic—"the crumbs from Hegel's table" (p. 14)—has preserved and magnified Hegel's chief errors and inadequacies.

⁸ He does distinguish various modes of opposition, and he notes that Soviet Marxists fail to make even the elementary distinctions insisted upon by the Greeks—e.g., Aristotle's distinction between opposites which have, and those which do not have, a mean or middle term.

place, however, Vysheslavtsev states explicitly that "real contradiction" must be distinguished from "logical contradiction" (Kant's "Realrepugnanz" and "logische Repugnanz"); the former is a temporal process, which involves struggle and resistance (p. 23). The latter is nontemporal and "involves no struggle." Thus, to purge the criticism of possible ambiguity, we should reformulate (1) to read: "all real opposites issue in real contradiction (i.e., antagonism, conflict)." But Vysheslavtsev could still maintain, and justly, that on this formulation the thesis is false.

(2) To refute thesis (2) the author offers counterinstances of "real contradictions" which lead to degradation and destruction. Leninists, who like to quote Heraclitus' saying that strife is the "father of all things," deliberately ignore his balancing statement that harmony is their "mother." Hegel, and especially Lenin,^{*} Vysheslavtsev notes, systematically neglected the element of harmony in the relation of opposites—something clearly expressed by Heraclitus in the image of the bow and the lyre as *systems* of opposed forces, for to say "system" is to say balance, harmony. Without harmony, Vysheslavtsev adds, nothing comes to be or persists in being; the naked (i.e., wholly unharmonious) clash of opposites might equally well lead to an ontological abrasion into sheer nothingness rather than the enrichment of being, the development and progress, asserted by the Hegelian-Marxist dialectic. The author holds, versus Lenin, that in both nature and history harmony prevails over strife—though not absolutely: there can be harmony without strife, but there cannot be strife without (at least minimal) harmony. All history is a history of class struggle, but it is also a history of class solidarity and co-

* It was Lenin in particular who asserted the relative, temporary character of the "unity" (e.g., harmony) of opposites and the absolute character of their struggle. (Historically, the sharpest anticipation of this position was stated by Bakunin, who had a strong—if unacknowledged—influence upon Lenin, in his article, "Die Reaktion in Deutschland" [1842], a flaming manifesto of dialectical nihilism. Vysheslavtsev does not enter into such historical matters.) The reasons for this, as the author is careful to point out, lie in socio-historical considerations—the need for a theoretical "justification" of class struggle and the "leap" of violent revolution.

operation. Otherwise, as Marx himself recognized, the struggling classes would literally annihilate one another.

(3) Here again, Vysheslavitsev offers compelling counterinstances—of retrogression, destruction, tragic loss in both nature and history. Historical progress, he insists, cannot be “scientifically demonstrated,” as dialectical materialists claim; their acceptance of a “progressive dialectic of history” is part of an optimistic faith inherited from the Enlightenment, or a metamorphosed belief in a messianic “promised land.” More generally, however, the Hegelian-Marxist dialectic fails to *explain* the dynamics of dialectical development, e.g., the cause of the transition from antithesis to synthesis, from conflict to harmonious resolution. The mere assertion that there are dialectical “leaps” or “transitions from quantitative to qualitative change,” Vysheslavitsev argues, is no explanation at all. In fact, the Marxists, following Hegel, here fall into a paradoxical position: on the one hand, they are rationalists, “deathly afraid of anything unknowable, mysterious” (p. 30); on the other hand, they admit irrational (as well as unobserved) leaps at crucial points in the development of both nature and history—e.g., from matter to life, from life to mind. In this, Vysheslavitsev notes acidly, they are closer to classical theism, with its doctrine of special creation, than to any secular metaphysics.

In a careful discussion, Vysheslavitsev makes it clear that the “unity” of opposites asserted by Marxists—in the only interpretation which makes sense, namely, as partial (rather than complete) identity—is perfectly compatible with the law of identity, and, we might add, the laws of contradiction and excluded middle. All opposites have *something* in common (as Aristotle recognized): odd and even are both number, etc. The Soviet attacks, inspired by Engels,¹⁰ upon the law of identity as implying that

¹⁰ Vysheslavitsev fails to note that such attacks ceased abruptly in 1946, with “the Soviet rehabilitation” of traditional formal logic. See A. Philipov, *Logic and Dialectic in the Soviet Union* (New York: Research Program on the U.S.S.R., 1952); also Wetter, *op. cit.*, Pt. II, Ch. X. I have discussed the most recent Soviet development in this field in the *Journal of Symbolic Logic*, XVII (1952), pp. 124-28; XVIII (1953), pp. 83-86; XIX (1954), p. 149.

being is static, immutable, "metaphysical" (i.e., "non-dialectical"—in the special Hegelian sense of the term appropriated and misused by Engels), blankly ignore the fact that Aristotle himself made growth and change basic to his entire ontology. Indeed, as Vysheslavitsev aptly notes, the only "metaphysician" who would fit Engels' characterization is Parmenides. All the other major metaphysicians, from Plato and Aristotle through Leibniz and Hegel to Bergson and Lossky (and, one might add for Anglo-American readers, Peirce and Whitehead) emphasize change, becoming, growth—without the least prejudice to the law of identity.

II

Vysheslavitsev finds that ontological materialism, being doctrinally primitive and easily communicated, is well suited to the exigencies of ideological warfare. At the same time, and for similar reasons, it is a doctrine that can be more easily asserted than criticized, since criticism requires that "one rise to a higher level of thought, moving, as it were, from arithmetic to the differential calculus" (p. 10). What he means, specifically, by this metaphor will become clearer in the sequel; but the general point is clear enough and, I think, valid. Philosophical criticism of an ontological doctrine—as opposed to mere denunciation, abuse, or positivist prohibition—presupposes an alternative doctrine of the same, or a higher, level of generality and alleged adequacy. For example, Whitehead's critique of ontological materialism in *Science and the Modern World* rests upon a fully worked out, non-materialistic ontology and cosmology. "Simple location" is a fallacy in the light of an alternative doctrine of "non-simple location"; "misplaced" concreteness is opposed by a doctrine in which concreteness is "properly placed." Vysheslavitsev's conception of a "higher level of thought" may be interpreted in terms of this notion of alternative doctrines; one who is totally immersed in an ontology, to the extent of being unaware of his own presuppositions, is likely to be oblivious to genuine alternatives. This does not entail, as it might appear to, that a philosophical critique will be adequate or convincing only for those who share the

critic's explicitly or implicitly held alternative. Adequate criticism of doctrine *A* presupposes an intellectually respectable alternative, not-*A*; but not-*A* may take the form of an indefinitely protracted disjunction: *B* or *C* or *D* The lesson to be sought in the history of metaphysics, I would suggest, bears precisely upon the number and character of such clearly formulable ontological alternatives. In brief: to criticize an ontology, one must *have* an ontology, *some* ontology—but not this or that particular one.

These rather abstract considerations may in part explain why, to date, there has been no fully adequate critique of Soviet dialectical materialism—aside from the more obvious reasons: philosophic indifference or contempt, the barriers of language, etc. But they also suggest the limitations of Vysheslavitsev's study. For it is based upon a "dialectical ontology" which is not always free from obscurity or impervious to countercriticism (for example, in the "resolution of the antinomy of freedom and necessity," pp. 66-73). In some places, following S. L. Frank and N. O. Lossky, the author characterizes his own position as an "idealrealism"; elsewhere he speaks of it, in more general terms, as an elimination of all "isms," which, while taking being (or "the absolute" [p. 31]) as basic, embraces all ontological oppositions. This philosophy, he says, recognizes matter but rejects materialism; recognizes life but rejects biologism; recognizes psyche but rejects spiritualism; recognizes mind, idea, but rejects idealism. However, when one comes to examine this hospitable ontological pluralism more closely—and for this it is necessary to go to Vysheslavitsev's other writings—one finds it abutting upon a baffling doctrine of the absolute as sheer irrationality and limitlessness, in the light of which the author's strictures against Hegelian-Marxian rationalism lose some of their edge.

It is a chief contention of Vysheslavitsev's book that "dialectic and materialism are incompatible" (this is both the title of Chapter 10 and the epigraph to the volume as a whole). He does not explicitly argue this point; but his chief ground for the assertion appears to be the following: "matter" is ambiguous in Marxist-Leninist usage. Acceptance of "matter" in the narrower sense (what Lenin called the "physical" conception of matter) as

"all that exists" commits one to vulgar (reductive) materialism. To avoid the difficulties of this position, Soviet writers have turned to the broader sense (what Lenin called the "philosophical" conception of matter), defining matter as "whatever exists objectively." This definition, according to Vysheslavitsev, violates the "dialectical principle" that everything exists and is known through its opposite: both ontological and discursive definiteness involve differentiation and opposition. Thus, "matter," if it is anything definite or definable, must be opposable to something else, e.g., form, mind, *Geist*. In fact, as Vysheslavitsev ably shows, matter for dialectical materialists is *not* opposed to anything non-material; it means absolutely *everything* ("only the nonexistent," said Lenin, "can be anything else") and thus *nothing* definite.¹¹ "Matter," in this viciously broad sense, Vysheslavitsev caustically observes, "thinks, rejoices, grieves, prays to God, even denies its own existence and asserts that only mind exists . . . , in a word, this 'matter' is psyche and mind, for it is everything—both material matter and non-material matter" (p. 36).¹² And, of course, he has no difficulty in showing that such a "solution" of the old problems is vacuously verbal and leaves all of the traditional aporiae intact: e.g., what, now, is the relation between corporeal matter and psychic or mental "matter"? (Analogous difficulties, he notes, beset absolute idealism, as a consequence of its doctrine that matter is completely *aufgehoben* in *Geist*: what is the relation between "pure" *Geist* and "matter-as-aufgehoben-in-Geist"?¹³)

¹¹ Lenin's "definition" of matter as "that which exists objectively" (independently of our sensation) commits him only to ontological *realism*, not to materialism; the former is all he requires to escape the "subjective idealism" of Berkeley, Hume, and Mach.

¹² Here again, we may note, the Leninist position was anticipated by Bakunin who (in 1871) went so far as to declare—in the heat of polemic, to be sure: by "matter" I mean . . . the most sublime *feelings*, the greatest *thoughts*, the most heroic acts, acts of self-sacrifice . . . , as well as electricity, light, heat, . . . gravitation . . ." (*Œuvres*, VI, 118; italics added).

¹³ According to Vysheslavitsev, Hegel wrongly depreciated the power and "autonomy" of irrational, contingent, and instinctive elements in both nature and history. To his "List der Vernunft" contemporary psychology adds the "List der Instinkte" (p. 96).

Vysheslavitsev seems hesitant as to whether to accuse Soviet Marxists of reductionism or (definitional) "inflationism"; in different contexts he brings both charges. However, there is a ground for such indecision, since Soviet writers, including Lenin, have vacillated continuously between the narrower and broader conceptions of matter. With respect to the reductionist extreme, Vysheslavitsev notes that monistic metaphysical idealism, with its "explanation from the top," is guilty of a fallacy analogous to that of monistic metaphysical materialism, with its "explanation from the bottom." The former draws its plausibility from the patent fact that the higher levels are not contained in and cannot be derived from the lower: the house is not contained in its foundation, though the foundation is contained in the house. The latter, in turn, draws its plausibility from the fact that the lower levels are always present, even if *aufgehoben*, in the higher. But both kinds of reductionism ultimately fail: for example, "from the most complete physical knowledge of sound waves we cannot derive music with its laws; but, similarly, from a complete knowledge of music we cannot derive the physics of sound" (p. 31). To such reductive monisms, as we have seen, Vysheslavitsev opposes a broad categorical pluralism.

The Engels-Lenin "theory of reflection" is justly dismissed by Vysheslavitsev as without philosophic interest. But he pauses to demolish Engels' much-quoted assertion that in practice and in production the "thing in itself" becomes a "thing for us." If we can make and use a thing, Engels held, we know it completely. Vysheslavitsev adduces compelling counterinstances: a savage (or, in current jargon, "a member of a preliterate society") with no notion of the nature of combustion or the laws of heat can kindle and use a fire; he can throw a stone without knowing the law of falling bodies; he uses levers (in his body) at every step, but is ignorant of the principle of the lever; he begets children, lacking even a nodding acquaintance with the laws of genetics. Nor are civilized men so very different (e.g., when they twist a television dial). Furthermore, Vysheslavitsev notes, many phenomena, including some which are most vital to human life and welfare, cannot be produced or manipulated by man.

III

The second, and longer, portion of Vysheslavitsev's book,¹⁴ which is devoted to the Marxist-Leninist theory of society and history (usually referred to as "historical materialism"), is both more repetitive and less strictly philosophical than the first part. Furthermore, the author's criticism, though pointed, follows more closely upon traditional lines. I shall therefore treat it with relative brevity.

Vysheslavitsev's discussion of Marxian determinism—a doctrine intended to apply to both nature and history—provides a kind of transition to this section. He rejects the Marxist attempt at "mitigation" of classical determinism through the introduction of a notion of "midwifery" (*Begünstigung*) of events, and sets the disjunction sharply: either (1) there is complete determinism, and such "midwifery" is nonsense, or (2) there is only partial determinism, in which case *Begünstigung* makes sense, because there is (limited but real) freedom of human choice and action. In the second case, however, the Marxist talk about "iron laws" must be dismissed as rhetoric. Vysheslavitsev is right, I think, in treating this as an exclusive and exhaustive disjunction. Attempts have been made to interpret Marx, and even Engels, as having really meant (2) and thus as having abandoned strict determinism.¹⁵ One recent Soviet writer¹⁶ has definitely opted for (2), and even tried (with some straining of texts) to adduce Lenin's support for his position; but this has remained an isolated exception, and the author in question has published nothing since. The inconsistent combination of historical determinism with an "interventionist" or voluntarist theory of socio-political action, remains

¹⁴ Pp. 79-182.

¹⁵ E. g., by Antonio Labriola and, more recently, Rudolfo Mondolfo in his *Il materialismo storico in Federico Engels* (1912; new edition 1952). I have discussed Mondolfo's interpretation—which, in my judgment, is exegetically abortive—at some length in *Journal of Philosophy*, LI (1954), pp. 383-89.

¹⁶ P. A. Shariya, *O nekotorykh voprosakh kommunisticheskoi morali* [On Certain Problems of Communist Morality] (Moscow, 1951); see especially pp. 42-52. (This work is not mentioned by Vysheslavitsev.)

canonical for Soviet dialectical materialists. The deterministic strand in Marxism, as Vysheslavitsev reminds us, goes back to *Capital* (and, we might add, Engels' *Anti-Dühring*); the voluntarism has its roots in the *Communist Manifesto* (and Lenin's *What's to be Done?*).

In a much-glossed passage, Engels quotes with approval Hegel's definition of freedom as "*die Einsicht in die Notwendigkeit*." Vysheslavitsev rightly points out that the meaning which Hegel attached to such phrases, and to the general notion of "freedom as perceived necessity," is significantly different from that which the Marxists, since Engels, have given it. (This, he it noted, is only one instance of a general distortion consequent upon Marx's shift from an idealist to a materialist ontology while retaining such terms as "freedom," "contradiction," and "self-movement.") Hegel meant the autonomy of objective *Geist*, its insight into its own spiritual necessity, in which natural or causal necessity (which is *all* that the Marxists mean) enters only as an "aufgehobenes Moment."

As for the expressions "historical materialism" and "economic materialism," Vysheslavitsev argues forcefully (although he is not wholly original here) that they are self-contradictory. There is nothing "materialistic"—in the ontological sense—about economics; the forces and relations of production are shaped by human creativity, imagination, and inventiveness, i.e., by *Geist*. If we give up the term "materialism" as descriptive of the Marxist theory of history and society, we are left with what should properly be called "economism"—the assertion that economic activity is of primary importance and has a unilateral causal influence upon other kinds of human activity. In other words, economic development is asserted to be a uniquely independent variable upon which all other cultural variables depend.¹⁷ In refutation

¹⁷ This, according to Vysheslavitsev, is the basic *sociological* meaning of the phrase "being determines consciousness"—to be distinguished from its ontological meaning ("matter determines mind") and its epistemological meaning ("the object determines the subject's idea"). But it should be reformulated as "social being determines social consciousness," where (1) "social being" designates "purposeful human activity directed toward economic ends" (what Marx called "the material life of society"), and (2)

of this position, following a well-worn path, the author has no difficulty in marshalling a formidable host of counterinstances: examples of societies with very similar modes of economic production which yet had very different institutions, laws, morality, art, science, religion—in short, highly distinctive cultural *styles*.

In some passages Marx suggests a third interpretation of his philosophy of history—what might be called “technicism” or “technocracy”: the development of the instruments and technology of production is the uniquely independent variable upon which all others depend. Again, it is an easy matter for Vyshe-slavtsev to show that technology depends upon the state of mathematics and the empirical sciences, as well as upon various intellectual, cultural, and practical interests. Marx’s own *historical* writing, he adds, shows scarcely any trace of “historical materialism,” whether in the form of “economism” or “technicism” (cf. “The Eighteenth Brumaire . . .”).

But Vyshe-slavtsev sees a difficulty deeper than that of specifying independent variables in the Marxist theory of history and society—namely, its predominantly *causal* character, expressed in such key terms as “prior,” “derivative,” “condition,” “determine,” and, of course, “base and superstructure.” These terms, he argues, are not merely ambiguous; they are grossly inappropriate to the analysis of culture. Explanation in terms of cause and effect should give way to explanation in terms of means and end: technology and economics are (or should be) means, and the total system of culture is the end. The complex creative reciprocities which relate science, culture, and political organization, on the one hand, to technology and the organization of production, on the other, are more like the relation between a question (or

“social consciousness” designates “purposeful human activity directed toward non-economic—scientific, artistic, ethical, political—ends” (what Marx called “the spiritual life of society”). But then, “(1) determines (2)” may be construed either as (a) “(1) is the necessary condition for (2)” —which no one ever doubted—or (b) “(1) is the cause of (2) and (2) is not the cause of (1).” This is the doctrine of “economism” and it is false. Moreover, (b) could equally well be phrased as “consciousness determines being” or “one kind of consciousness [i.e., purposive activity] determines another kind” (p. 61).

"challenge"—Fichte's "Aufforderung") and its answer than the relation between a cause and its effect.

Technology, Vysheslavitsev insists, has not functioned historically as an independent variable; but there is today a powerful and dangerous tendency, shared by Soviet and non-Soviet societies alike, to subordinate men to machines, and human values to a maximizing of production. To reverse this process Vysheslavitsev advocates, not an abolition of the factory system, but restoration of a value hierarchy in which first place is given to science, art, ethics, and religion; second place to law and the state; and third place to economics. The author's critique of the evils of industrialism, though often penetrating, will be familiar to American and English readers from other sources (including Bertrand Russell's *The Prospects of Industrial Civilization* [1923], from which Vysheslavitsev quotes approvingly). Its roots, of course, go back to Rousseau and Leo Tolstoy.

Of greater interest is Vysheslavitsev's analysis of the tension between Marx's "imperative of maximum productivity"—an imperative uncritically accepted by many non- and anti-Marxists—and the liberal imperative of maximum individual freedom. Marx apparently failed to consider the possibility (although Proudhon emphasized it) that a maximizing of production might not be compatible with a minimizing of exploitation. In fact, Vysheslavitsev insists, industrialism demands maximum use of individuals as means, which is the "philosophical definition of exploitation." Marx himself, says Vysheslavitsev, if we forced him to choose, might well abandon the imperative of maximum production in order to maintain the imperative of anti-exploitation. He would thus be true to the ethical idealism of Kant, Fichte, and Hegel. But the opposite course has been followed in the Soviet Union. And Marx himself made the related errors of assuming (1) that exploitation and the other evils of extreme industrialization would disappear with the abolition of capitalism, and (2) that industrialism is an absolute, even though ostensibly instrumental, value, and the factory system has an indefinite—if not infinite—historical future.

I have space to mention briefly only two or three further points in Vysheslavitsev's critique of Marxist social theory:

(1) The disjunction "bourgeoisie-proletariat" is, he shows, neither exhaustive nor exclusive (as Marxists assert it to be). Peasants, technicians, engineers, industrial managers do not fall into either class. And the "capitalist class," far from being homogenous in its interests, is marked by sharp internal differentiation (as Pareto showed). Marx was wrong in assuming that a socio-economic class is made up of homogeneous units with similar economic interests. In contrast, Vysheslavtsev offers a three-class scheme, with intra-class differentiation: (a) the *economic* or producing class (including both "bourgeoisie" and "proletariat"); (b) the *political* or ruling class (made up chiefly of intellectuals); (c) the *cultural* or creative class (artists, scholars, scientists, ideologists).

(2) Marx's relativizing of non-Marxist "ideologies," and these only, is inconsistent. Either (a) *all* ideologies, including Marxism, are relative, expressing the temporary interests of classes—and then the idea of absolute truth (asserted by Lenin) is a fiction, or (b) Marxism is an absolute truth, which the proletariat is realizing in history—and we are brought back to Hegel's absolute idealism.¹¹

(3) Similarly, in his moralizing Marx appealed to an absolute ethical principle, valid for all times and countries: exploitation is everywhere evil and its denial or elimination good. Marx's own ethical position, in Vysheslavtsev's apt words, was a "moralizing immoralism" (p. 64).

It will, I trust, be clear by now that *The Philosophic Poverty of Marxism* constitutes a major, if not a "definitive," critique of Soviet dialectical and historical materialism. Vysheslavtsev has the rare ability to confront issues directly and sharply, making theoretical contact at just the right level of generality; moreover, his exposition and criticism are couched in a uniformly clear and forceful style. The principal weaknesses of his book, in my judgment, are of two kinds. (1) He neglects certain important doctrines and developments in Soviet Marxism, in particular, the

¹¹ The Soviet Marxist position on this question is involved in vicious circularity, as I have argued in the *Journal of Philosophy*, XLIX (1952), pp. 129 f.

doctrine of the partisan character (*partiinost*) of science and philosophy, and the closely related question of the relation between formal logic and dialectic, much discussed by Soviet writers since the rehabilitation of formal logic in 1946-47 (especially since Stalin's statements on linguistics of 1950). It is probably not accidental that postwar developments are least adequately treated by Vysheslavitsev; his book was completed in the middle 1940's and was not substantially revised before publication in 1952. (2) As I have already indicated, certain of the author's own views—especially in ontology, but also in epistemology—which he offers as an alternative position from which to criticize dialectical materialism, are themselves vulnerable to counterattack.

Nevertheless, Vysheslavitsev has placed every serious student of Marxist philosophy and Russian thought deeply in his debt. It is to be hoped that this brief but highly articulate study will soon be made accessible to an international audience.

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BRANDT ON HOPI ETHICS

HUBERT G. ALEXANDER

HERE is a study which one should indeed approach with high hopes.¹ For ethnologists have been wary of ethical problems and philosophers have rarely had first hand experience as ethnologists. Therefore, to find a trained philosopher like Professor Brandt willing to adopt the techniques of the field ethnologist in his search for reliable ethical data is remarkable and praiseworthy. Ethicists, to be sure, have occasionally availed themselves of the reports of ethnology and sociology, but usually as borrowers from material not gathered primarily with ethical problems in mind. In the present case, however, the ethicist has gone to the field himself, and asked questions specifically directed toward problems of ethics. The results should be interesting and illuminating.

Ethics, in the sense of a recognized branch of inquiry, reputedly began with Socrates and the Sophists, at least for the western world. Ethics, understood as a set of moral standards, traditionalized by maxims and admonitions, has existed in human cultures from so early a time that it would be hazardous indeed to conjecture the date of its probable origin. The "Hopi Ethics" which Mr. Brandt has studied is obviously that of this second sense, whereas his own study, at least insofar as it is a "theoretical analysis" and goes beyond mere description, is "ethics" in the first sense. That the Hopi Indians were somewhat astonished and perplexed by Mr. Brandt's line of inquiry is indicated by some of their quoted remarks, such as their mention (p. 82) of the "hard questions" being put to them, and their amazement at the suggestion of the possibility that "there is no right answer to ethical questions." One gathers, thus, that while the problem of ethical relativism was of high concern to Mr. Brandt, such an idea was nigh unthinkable to the Hopi.

¹ Richard B. Brandt, *Hopi Ethics, A Theoretical Analysis* (Chicago: University of Chicago Press, 1954). Page numbers in parentheses refer to this work.

Since, however, Brandt's studies were not made in order to convert the Hopi into moral philosophers, but rather to discover from these relatively untainted American Indians something of the character of their ethics, and, more especially, something by way of helpful information with respect to the philosophical and ethnological problems connected with ethics, it is in terms of contributions to these items that the present work must be appraised.

Mr. Brandt has had considerable pioneering to do in the devising and adapting of questions and methods for obtaining his information. In this part of the enterprise he has made an excellent beginning. His variety of attacks is indicative of a thoughtful and imaginative approach. Among other questions put to his informants, he has asked about goals (e.g., "what would you feel proud of?"), about the best English equivalents for Hopi ethical terms (especially *ka-anta*, "not right"), about debates among the Hopi themselves which might have ethical content, about personality traits with ethical character (e.g., *lomaasino*, "good-natured"), and about reactions to certain typical acts (e.g., drunkenness, gambling, adultery, etc.). Furthermore, though it is not clear at all times how many informants were used, it would seem that enough of a sampling was made of both adult male and female opinion to give a substantial basis for the generalizations reached about Hopi ethical attitudes. In addition, Mr. Brandt's researches give evidence of having been conducted in the best tradition of a good inquirer-informant relationship; for certainly among the most interesting items in the book are the verbatim replies of the Hopi informants, many of which indicate a simple and disarming ingenuousness. The weakest aspect of Mr. Brandt's data is the use of his students at Swarthmore College to give the typical "white American" answers to many of the same questions which he had put to the Hopi. It is frankly admitted by him that these student opinions do not reflect an adequate spread for generalizing a set of "white American" attitudes. But knowing the limitations of the group, the comparison is still of value, and certainly of interest.

As the result of such a study, we might expect some interesting new light on the nature of the Hopi ethical system, which, according to the book jacket, is "entirely different" from our

own. The light is there, indeed, mostly to confirm the appraisals of earlier researches, and certainly not to produce the impression of any vast differences between Hopi ethics and our own. (But then, one should never take a book jacket seriously, I presume.) In fact, most of the differences are matters of emphasis, usually traceable to the natural environment of the Hopi, or to their type of economy, or to their social structure, or to their cosmological beliefs. For example, the importance of rainfall to agriculturists in an arid region is obvious, so that the attributing of moral obligation to any act thought to promote or inhibit the advent of rain is not surprising. Perhaps the chief characteristic of Hopi ethics noted by Mr. Brandt is that of its strong prohibition of aggressions, trouble-making, and worry (which the Hopi consider even to be a cause of death). It would seem quite understandable that internal strife would be deemed an evil by a society of primitive agriculturists seeking to hold on in dwindling numbers in the midst of a barren climate and neighbors recently predatory. And indeed, perhaps, the matter of greater permissiveness in sexual behavior, also noted of the Hopi attitude, is also explainable in such surroundings. No doubt observations of this type led Professor Brandt to the remark that as between Hopi and white American attitudes, "it is possible that there are no basic differences among these groups, that is, roughly, no differences remaining when allowance has been made for the differences in the meaning of the personality trait in the cultural context" (p. 140). From this point of view, ethical variance would seem to be due primarily, if not exclusively, to climatological, economic, societal, and philosophico-cosmological factors. Mr. Brandt keeps open, however, his search for some simple attitudinal differences not traceable to anything else. That he apparently does not find any very significant ones may in itself be the point of greatest significance.

It is to be regretted that a book with so much promise should so lack in clarity of presentation. If Mr. Brandt had concentrated first upon his data, presenting it with a minimum number of philosophical distinctions, and had left the majority of his finer analyses to a later volume or to the later sections of this volume, it is my opinion that there would have been a considerable gain in

incisiveness and utility. As it is, each new section is introduced by what for the ethnologist would be an overdose of philosophical refinement, followed by what for the philosopher is a confusion of theoretical philosophy with specifically Hopi data. On the philosophical side, the book fails in presenting any strong point of view or dominant issue, a failure due, no doubt, largely to the author's inclination toward empiricism and toward the tentativeness of scientific caution, coupled with a desire to clarify a number of ancillary ethical terms and distinctions. Caution and clarification are indeed commendable, but not to the extent of obscuring main issues.

If any issue is of central concern to Mr. Brandt, it is that of ethical relativism. And even though this problem stands out somewhat less than it might amidst the profusion of prior clarifications, it does, nevertheless, receive explicit treatment both in Chapter VI ("Hopi Ethical Concepts") and in Chapter XVI ("Ethical Relativism and Anthropology"). Let us, therefore, examine in some detail Mr. Brandt's approach to this question. First, he rejects two possible meanings of ethical relativism: (1) that "often some factors in the situation tend to make one course of action right, other factors some other incompatible course [right]" (p. 87); and (2) that different groups have distinctive learned ethical attitudes and opinions typical of each group. Instead, he adopts two more precise theses as reflecting alternative meanings of relativism. The first is called "logical" (theoretical and abstract³), and the second is called "causal" (factual and concrete³). The "logical" states merely the logical possibility of "A is wrong" and its contradictory both being correct, and the "causal" states a similar causal possibility. This formulation has the advantage of permitting one to subscribe to causal relativism without necessarily accepting the logical thesis. More specifically, the logical thesis states that "it is logically possible for a person X to affirm of something A, 'A is wrong' or 'A is obligatory' and for a person Y to say of the same thing, 'A is *not* wrong' or 'A is *not* obligatory,' and for both to be correct, or at least for neither to be incorrect." "So defined," continues Mr. Brandt, "ethical relativism is parallel to relativism in physics (or history); for part of relativity physics is the assertion that

two observers in different physical frames of reference may make verbally conflicting assertions about whether two events are simultaneous and neither be mistaken" (p. 88).

It would seem that here the analogy with physics is either misleading or illuminating. In physical relativity, at least in the special theory, the Lorentz transformation equations permit one to predict the appearance of simultaneity or non-simultaneity for two events if one knows the systems of the two observers and their movement relative to each other. Thus, if the logical thesis is meant to emphasize the ultimate contradictoriness of the two propositions mentioned above, then the analogy with physics seems misleading. But if some allowance was intended for more ultimate rules of transformation in the case of ethical relativism also, then the analogy is quite illuminating, suggesting as it does some logical means of overcoming the apparent contradictoriness. Mr. Brandt, however, prefers to leave the realm of the logical or theoretical problem and to look rather toward the possibility of aid from ethnological and psychological data to discover the necessary variables and rules for equivalence, particularly with regard to the conditions of the two persons making conflicting judgments. This path is admittedly beset with difficulties, such as the need for prior agreement of philosophers about the meaning of ethical terms, or the inability of ethnologists and psychologists to record with assurance identities of attitude and belief. Nevertheless, Mr. Brandt is hopeful that enough agreement can be reached by philosophers (apparently limiting the range to empiricists), and enough precision can be noted by anthropologists and psychologists, that the work can progress along these lines. Such optimism is refreshing, and, we hope, justified within limits. Certainly the problem needs a cooperative effort; though in this regard I should like to make a plea for the inclusion of the historian also as an important member of the team.

The issue is somewhat complicated by naming the hypothesis that "a person's ethical attitudes are a function of some variables whose values are not rendered completely determinate by a person having the cognitive, physical, emotional, and attitudinal qualifica-

tions we have mentioned" ² the "principle of the contingency of ethical attitudes." The term "contingency" suggests dependence either upon chance, or else upon some factors either not yet known or ultimately unknowable. It is, no doubt, only in the second of these three senses that the term is here used, for only then would it give promise to further research.

Many of the ideas suggested by Mr. Brandt appear to be sound. Unfortunately the distinctions are painstakingly laborious. They do not paint a clear picture for the philosopher, and they certainly do not throw out a life raft to the ethnologist floundering in the philosophical sea. Perhaps it is impossible to do better in this respect when one is concerned with a field so notoriously complicated and fluctuating as that of ethics. Yet, some basic clarity might have been gained if the problem had been couched in terms of descriptive cultural relativism as against ultimate normative relativism, to follow the suggestion of Professor John Ladd in a similar enterprise.³ Certainly the comparative ethicist has an important task and deserves some fairly standardized tools. Would it not be helpful, perhaps, to orient this type of study around estimates of the ethical character of various cultures in terms of behavior condemned (and usually punished), behavior condoned (but disapproved), behavior sanctioned (or approved), and behavior extolled (and often rewarded)?³ However, one must admit that whatever primary schema is selected, the courses of investigation will shortly disrupt its placid flow.

It is much to be hoped that Professor Brandt will not allow his investigations into comparative ethics to rest here. For, whatever the shortcomings of the present work, it is a notable landmark in an area of new problems and new techniques.

University of New Mexico.

² P. 240. The qualifications mentioned were "not ill," "not fatigued," "not excited," "not depressed," "not biased," and the like.

³ "The Philosophical Significance of Navaho Ethics," a paper read to the New York Philosophical Society on February 25, 1954. (Brandt's distinction of logical and causal may be intended to accomplish the same purpose. But if so, "logical incompatibility" does not suggest the ultimate variance between free moral agents in the way in which "normative" does.)

A STUDY IN RECENT MEXICAN THOUGHT

RISIERI FRONDIZI

AMERICAN interest in Latin-American philosophy is of very recent origin. Once it appeared however, William Rex Crawford's volume, *A Century of Latin-American Thought*, arrived in time to channel it in the proper direction. In spite of its faults, this first survey study devoted entirely to Latin-American thought did manage to fulfill the goal of intercultural *rapprochement* it had set for itself. In addition, the Inter-American Congresses of Philosophy held in New York in 1947 and in Mexico in 1950, which were preceded by the Inter-American Conference at Yale in 1943 and the Congress in Haiti in 1944, gave philosophers of the two Americas the first real opportunity to get acquainted with each other personally and to carry on formal and informal discussions. Soon afterwards several American universities (Boston, Pennsylvania, Yale, etc.) began to offer special courses in Latin-American philosophy.

A worthy product of the growing interest on the part of North Americans in Ibero-American philosophy is Patrick Romanell's *Making of the Mexican Mind: A Study in Recent Mexican Thought*.¹ This is the first book published in English, or, for that matter, in any language, on twentieth-century Mexican philosophy. The fact that Romanell's book was translated into Spanish and published in Mexico soon after the appearance of the American edition is clear proof that it is not a mere expository work written primarily for home consumption. Besides, the volume is not restricted, as its subtitle might suggest, to a study of contemporary Mexican philosophy. It aims at something more than that: to discover the essence of the Mexican way of life and thus to uncover the Latin-American soul.

The author is quite justified in insisting from the very beginning that the philosophy of a country cannot be reduced to

¹ (Lincoln: University of Nebraska Press, 1952).

a conceptual scheme, since pre-conceptual attitudes, reactions, and feelings reveal much better the deeper level of a people's mentality. Romanell thinks that "the tragic sense of life" characterizes Hispano-American culture, while "the epic sense of life" may be said to characterize Anglo-American culture. The Mexican painter José Clemente Orozco and William James are the symbols of the two attitudes in question, according to Mr. Romanell.

These ideas are expressed in the introductory chapter, entitled "A Character Sketch of the Two Americas." The second chapter contains an historical survey of Mexican philosophy from the colonial period down to the present. The third and fourth chapters are devoted to Antonio Caso and José Vasconcelos, respectively, and the fifth to Mexican existentialism. A very well selected bibliography on contemporary Mexican philosophy completes the volume.

According to the author, there are five principal stages involved in the making of the Mexican mind: the Scholastic, the Enlightenment, the Anti-Rationalistic, the Positivistic, and the Anti-Positivistic. As the book is concerned chiefly with Mexican thought after 1910, no one can blame the author for the sketchy character of his second chapter. As a matter of fact, it was a good idea to include such a chapter, especially when one considers that the original was to circulate among readers who were not familiar with what had happened intellectually in Mexico prior to 1910.

The two chapters dealing with Caso and Vasconcelos may be considered the substance of the book. After pointing out the three stages discernible in the development of Caso's thought (the anti-intellectualist, the pragmatist, and the dualist), the author takes up briefly the first two, devoting most of his attention to the last stage, referred to as Caso's "Christian Dualism." There he examines Bergson's influence on the Mexican philosopher, calling him "a Christian interpreter of Bergson's philosophy." At the end of the chapter, Mr. Romanell maintains that Caso's "metaphysics adds virtually nothing new to the old debate of vitalism versus mechanism, except the multiplication of unnecessary entities," though he recognizes fully the timely significance of

Caso's heroic challenge to the doctrine of the "impetus of power" inspired by Nietzsche.

In the fourth chapter Romanell studies Vasconcelos's Aesthetic Monism in terms of its three main assumptions, namely, "(1) That beauty is a special form of cosmic energy. (2) That the proper way of comprehending the nature of things is through aesthetic emotion. (3) That the universe is not only running downwards but running upwards also, getting more and more beautiful." The author compares Vasconcelos with Bergson and Croce, and concludes that "while Bergson tried to tell the contemporary world what is wrong with science, Vasconcelos has aimed at telling it what is right with art. The latter's message is doubtless the other (positive) side of the former's." One should bear in mind that beauty is, for Vasconcelos, the highest form of truth.

The reading of the chapter on Vasconcelos—which is well done in many respects—leaves one with the impression that the author exaggerates the originality of this Mexican thinker and, as a result, does not distinguish with sufficient clarity a mind which is original from one which is eccentric. Philosophical originality is or should be a creative or constructive affair; it cannot consist of merely piecing together a few ideas and deriving a heap of fantastic conclusions from them. At any rate, many pages of Vasconcelos's "philosophical work" will go down as an example of what an uncontrolled imagination will do when it invades the field of philosophy. Very little benefit for future philosophizing can be derived from a "philosophical system" which is not based on facts or rational principles but on its own metaphors. One should not be deceived by high-sounding phrases. In short, more originality and intellectual honesty can be found in Caso's modest work than in Vasconcelos's arrogant writing, much of which seems to be done *pour épater le bourgeois*.

The fifth and final chapter of the book deals with "Perspectivism and Existentialism in Mexico." Here the author succinctly expounds the philosophy of José Ortega y Gasset and skillfully brings to the fore both the direct influence of the Spanish thinker in Mexico as well as the indirect impact of his Germanophile activities on the process of "Germanization" evident in contemporary Mexican thought. Though the author points out that

there are three main currents in present-day Mexican philosophy (the neo-Orteguian, the neo-Kantian, and the neo-Scholastic), he studies at some length only the first. As to the neo-Orteguian current itself, what he does is to summarize briefly the major writings of the following neo-Orteguians (existentialists) in Mexico: Samuel Ramos, Leopoldo Zea, Edmundo o'Gorman and Justino Fernández. Incidentally, in studying this aspect of contemporary Mexican thought, the author does not emphasize sufficiently the influence of José Gaos on the philosophical formation of the last three men (the only reference to the influence of Gaos appears in the discussion on o'Gorman).

In the last pages of his work Mr. Romanell returns to his initial thesis that "the tragic sense of life" is "characteristic of the Latin-American soul"—which stands in contrast to the Anglo-American soul, with its characteristic "epic sense of life." Even though this distinction throws some light on the differences of attitude within the two Americas, it should not be taken *à la lettre*. For the fact remains that the tragic sense of life which is attributed to Latin America as a whole has been derived by the author from Mexico, where he sees it symbolized in the bullfight and in Orozco's painting. Generalizations are always dangerous, especially when one is dealing with cultures that overlap. A Mexican is, at the same time, a Latin American, and it is not easy to separate one from the other. Nevertheless, the author seems to attribute to Ibero-America what is peculiar to Mexico. Do Uruguayans and Argentinians have, to mention only two cases, a tragic sense of life? In the region of the Río de la Plata one can hardly find such an attitude of life, and even the symbols mentioned by Romanell are lacking there. A similar objection can be made to the author's statement, which is only partly true, regarding "the cultural *mestizaje* of Latin America."

These critical remarks should not be taken to mean that the present work is not a valuable contribution to the understanding of contemporary Mexican philosophy. Rather, it is to be hoped that Mr. Romanell will some day undertake a similar study of other Hispano-American countries which have now reached philosophic maturity, and that he will perform his task, as he has done in this one, with direct knowledge of the source materials

and with deep and sympathetic understanding of our ways of life and culture—qualities which can be possessed only by a person who, like him, has lived for many years in Latin-American lands:

University of Puerto Rico.

THESES ON PRESUPPOSITIONS

DAVID HARRAH

1. An *assumption* is a belief held, without rigorous proof, to be true. A *supposition* is a hypothesis entertained within a particular context of inquiry. We can either assume that a presupposition holds, or suppose that it holds (in order, e.g., to demonstrate that some proposition is false). *Implication* is a logical relation which holds among propositions.

2. *Presupposition* is a relation between two entities which have different ontological status (e.g., between a proposition and an event, but not between two propositions). Presupposition is transitive.

3. The notion of presupposition does not belong to logic (see No. 2). It belongs to ethics (see No. 4), and belongs to metaphysics only insofar as metaphysics belongs to ethics.

4. The notion of presupposition offers a semantic control over discourse in that it is a means for discovering whether two disputants are referring not merely to the same abstract universe of discourse but to the same concrete world.

5. There are two equally valid ways of regarding presuppositions: either "the presuppositions" (see No. 6) of an entity are a subclass of its properties, or there is only one presupposition, namely, that an entity has the properties which it has. (The properties of an entity include its standing in relation to other entities.)

6. The more interesting of these two ways is: E presupposes P if and only if P is a property of E, and P has an ontological status different from that of E. P is "a presupposition" of E.

7. To discern a presupposition relationship we need general criteria for "being a property of" the entity in question and for ontological status. Because to have these criteria is to have a comprehensive philosophical theory, to assert that a presupposition relation holds is to assert such a theory.

University of California at Riverside.

COMMENTS ON HARRAH'S THESES

I

ALAN ROSS ANDERSON

1. Theses 2 and 6 lead me to suppose that Mr. Harrah would accept the following two statements: (A) A presupposition may be either a proposition, a property, or an event. (B) Events and propositions have different ontological status. Granting these suppositions, the following problems arise.

2. A presupposition may be either assumed or supposed to "hold" (Thesis 1). But I fail to see how we could reasonably assume or suppose that an event-presupposition or a property-presupposition "holds"—unless we construe this locution as somehow elliptical for a statement concerning the assumption or supposition of a proposition.

3. I can find only a stylistic difference between " p is true only if q is true" and "if p is true then q is true." If the former expresses a "presupposition relation" (as common usage of the term suggests), then this relation is a species of implication, and hence "belongs to logic."

4. Let us suppose that the theses are preliminary to the program of Thesis 4. And let us grant with Mr. Harrah that we can assume properties or suppose events. There still seem to be curious and arbitrary features of the theory. For example, let P and E be as in Thesis 6. Then it follows from Thesis 2 that either (a) all properties have the same ontological status, in which case E cannot be a presupposition of any property, or else (b) there are properties which have ontological status distinct from that of P , in which case E can be a presupposition of properties only of the latter status. Either alternative seems to me gratuitous. Similarly, supposing my 1. (B) to be correct, it follows that if a proposition p presupposes an event E , then E may not presuppose any proposition (unless, of course, there are propositions with an ontological status distinct from that of p). Again the condition seems arbitrary.

5. We already have some techniques for determining whether or not two disputants are referring to the same concrete world. These techniques are not completely adequate, to be sure; but then there are few or no interesting questions for which we have completely adequate techniques. And even if a "semantic control" of the type envisaged were formulated, would it not be the case that the question it was designed to answer would arise again if one disputed the adequacy of that formulation?

Yale University.

II

MONROE BEARDSLEY

1. If the relation *presupposes* must take different kinds of entities as its terms, then (despite Thesis 2) it is not transitive, for if a proposition P_1 presupposes an event E , and the event E another proposition P_2 , then P_1 cannot presuppose P_2 .

2. The concept of presupposition does not belong to ethics. It is not a normative concept. If Mr. Harrah should hold that an ethical proposition presupposes anything, then the statement that the presupposition holds is not ethical, but meta-ethical.

3. Mr. Harrah offers us two ways of regarding presuppositions. (a) According to the first view, the presuppositions of an entity are a proper subclass of its properties. I don't see how this subclass can be marked off except by stipulating that it consists of the *defining* properties of the entity. In that case, all statements about presuppositions are true by definition; thus (i) they belong to logic, and (ii) to assert that a presupposition holds is not to assert a philosophical theory, but only to propose a partial analysis of a term. (b) According to the second view, the presuppositions of an entity are coextensive with its properties. This seems to follow from the formal definition in Thesis 6. But in that case, all statements about an entity are presupposition-statements, and therefore the concept of *presupposition* provides no "semantic control over discourse." For by itself it does not

provide the distinction between "universe of discourse" and "concrete world."

4. If two philosophical theories involving presupposition be alternative theories about the same thing, then the two parties concerned must agree on their definition of "presuppose." This fortunately does not require a general systematic account of things, but only something less ambitious and more available: an analysis of *presupposes* into logical and causal connections. *X* presupposes *Y* if and only if *Y* is a necessary condition of *X*.

Swarthmore College.

III

RICHARD RORTY

There seems to be a latent conflict between Thesis 2 on the one hand and Theses 3 and 4 on the other.

1. What is the procedure for discovering and certifying the existence of a presupposition relation? Suppose, for example, that we wish Epimenides to admit that his statement that all Cretans are liars presupposes his own un-Cretan behavior, and that he refuses to do so. We would either begin talking about rules of the "correct" use of language or else assume the standpoint of the moralist and argue that we should adopt certain rules which would promote the progress of our discussion. We are unable simply to offer a presupposition relation for his inspection. On Mr. Harrah's view, however, the rules we cite or erect would not be simply conventional, but would (if they were the right rules) be grounded upon the real "properties" of Epimenides' statement. Nevertheless, in the order of inquiry the rules as rules, rather than as requests to take account of these properties, are prior. We think they are the right rules because, if accepted, they do in fact exercise control. But then we must notice the difference between rules and descriptions and hold fast to Theses 3 and 4 while discounting Thesis 2 as an unnecessary hypostatization.

2. Is the proposed presupposition relation internal to its terms? In the case of a proposition presupposing an event, it would seem that the relation must be internal to the proposition; otherwise the utility of the relation as offering a control would be lost, for the relation would become contingent, presumably upon the views or wishes of the person who asserts the proposition. But then we must ask what sort of necessity is to be attributed to the relation. Logical necessity clearly will not do, since this would reduce presupposition to an affair of deductive logic. "Metaphysical" necessity is too vague a concept to be useful here, and physical necessity seems inappropriate. Nor will the type of necessity possessed by propositions whose opposites are self-referentially absurd serve in this case, for if we ask *why* the opposite is absurd we can only say that it presupposes its own denial, and it is precisely this notion of presupposition which we wish to explicate. The sort of necessity possessed by normative statements is the only remaining alternative, and here again we leave descriptions of really existent relations of presupposition for rules which offer norms for our use of language.

Yale University.

IV

ABNER SHIMONY

1. I suspect that the definition of *presupposition* is elliptical, since apparently Mr. Harrah intends to assert that A presupposes B only if the existence of B is necessary for the existence of A.

2. According to Thesis 2 presupposition seems to be an ontological relation. The allocation of this concept to ethics in Theses 3 and 4 is based on the claim that it performs a *practical* function in communication. But analogous reasoning would lead to the classification of physics as a branch of engineering.

3. Since presuppositions are among the generic characteristics and relations of all things, all discourse must involve pre-

suppositions. But how can this involvement be a "control" discourse except indirectly, by providing facts capable of recognition in human experience?

4. In Theses 5 and 6 the entities presupposed by a thing are referred to as "properties." This is perhaps misleading, since nothing in the previous theses prohibits concrete things from being among the entities presupposed by an abstract thing.

5. The scope of the problem of presuppositions, as stated in Thesis 7, prompts a general methodological comment. Because of various limitations of human experience and faculties, direct intuition in matters of metaphysics is deceptive and must be supplemented by hypothetico-deductive procedures similar to those used in some empirical sciences. The validity of a metaphysical theory would then be judged primarily by its explanatory power, rather than by the immediate plausibility of individual hypotheses.

Neptune, N. J.

V

FREDERICK SONTAG

1. An entity is a real (vs. a reasoning) entity if it can be asserted to exist when the reasoning mind is withdrawn. It is possible for an *implication* (Thesis 1) to be a real entity, but only if it is said to hold between two entities the existence of either of which necessarily involves the existence of the other. Implication may also hold when founded on less essential characteristics, but then it becomes an entity of reason. *Assumption*, *supposition*, and *presupposition* (Thesis 2) are only reasoning entities, since in no case are these relations actual when the reasoning mind is absent. A presupposition has no ontological status (i.e., existing without a relation to mind) whatsoever, although it may be of considerable interest metaphysically.

2. The notion of presupposition belongs to psychological logic (Thesis 3), but not to a logic unconcerned with problems of

the mind. It belongs to ethics only if the reasoning mind is thought to be able to provide its own ethical norms, but it belongs not at all to ontological ethics, where norms are said to be discovered existing independently from any mind or self. Presupposition can exert psychological control (Thesis 4) over discourse but no real control, if disputes are agreed to be ultimately solvable only by an appeal to structures existing independently of the disputants. A presupposition may tell us something about processes and relations which involve the mind, but nothing about ontology.

3. Some presuppositions may derive their existence from the mind alone, while other presuppositions are given existence if, and only if, the mind stands in relation to a real entity. A presupposition of this kind is of procedural assistance to the mind as it deals with real objects, since no finite mind is powerful enough to deal with the structure of real being without intermediaries and rules of procedure.

4. Real properties (Thesis 5) follow when two or more real entities stand in mutual relationship without the aid of mind, whereas reasoned properties follow when some mind is brought into contact with one or more real entities. Therefore, E may presuppose P (Thesis 6), but it may do so only metaphysically, never ontologically. P cannot differ from E in ontological status since it has none. To assert that such a presupposition holds (Thesis 7) may indicate a partial philosophical theory, rather than a comprehensive one, whereas a comprehensive philosophical theory must clearly separate real, modal, and purely mental distinctions. Any adequate theory must first complete its ontological investigation of real structure, which alone can yield the criteria for clear separation.

Pomona College.

VI

FRANCIS V. RAAB

1. In Thesis 1 the phrase "without rigorous proof" misleads. One could just as well say "without any proof at all." It

is redundant to say "a belief held to be true," for when a statement is believed, it is implied that the person believing it holds it to be true. Furthermore I see no need for saying that an assumption is a belief. A statement is no less an assumption for not being believed.

2. Since Mr. Harrah does not use "evidence" in his definition of "supposition," does he allow that a supposition can be a well-confirmed hypothesis? And how does "entertained" clarify "supposition"?

3. His use of "either" in Thesis 1 would indicate that we can do no more than *assume* or *suppose* that a presupposition holds. But if so, what has become of the possibility of semantic control over discourse?

In Thesis 7 he says: "To assert . . . is to assert a comprehensive philosophical theory." But in Thesis 4, "the notion . . . offers semantic control." I wonder if Mr. Harrah means to say that it is the *notion* of a presupposition which offers such control? And I fail to see how reference to a presupposition relation offers any useful semantic control when in order to discern or assert the presence of such a relation we are required to have a comprehensive philosophical theory.

It is injudicious to say without qualification (Thesis 1) that we can assume or suppose that a presupposition relation holds in order to demonstrate the falsity of a *proposition*; and, in Thesis 2 to say that the presupposition relation never holds between *propositions*.

4. In Thesis 1, isn't "logical relation" so taken that it could exist between nothing but propositions? And isn't "propositions" so taken that nothing but logical relations could exist between them? If not, then what he says is hardly true, for we say: "losing his eyesight implies losing his job."

University of Minnesota.

RESPONSE TO COMMENTS

DAVID HARRAH

1. My theses are offered as an explication, a reconstruction. They belong to the level of meta-ontology, meta-ethics, or meta-metaphysics. In my formulation such terms as "ontological" and "property" are not ontological terms with meanings restricted to one particular ontological framework (as seems to be the case with these terms in the criticisms presented by Mr. Sontag), but are meta-ontological terms intended to range as variables over the class of ontological or property concepts of the diverse ontologies. Mr. Sontag says that we must have an ontological theory of real structure before we can proceed to an analysis of presupposition. Either this agrees with my Thesis 7, or Mr. Sontag means that presupposition-in-general can be analyzed only for the particular ontological system which we must first establish as the true one. My criticism of the latter alternative is that the resulting analysis would not apply in disputes about ontology.

2. Mr. Raab is right that some elucidation is needed for thesis 1. Following his suggestion, I would say that an assumption is a proposition which we believe but can't prove. But, what he calls "assumptions which aren't believed" I subsume under "supposition." Suppositions and assumptions can be well-confirmed hypotheses. To entertain is to consider, to examine, or (*inter alia*) to test.

Mr. Anderson's comments suggest that "a presupposition holds" is misleading. It was intended to abbreviate "an assertion that a presupposition relationship holds is true"; only by so regarding it could one make sense of Thesis 2.

3. As Mr. Shimony surmises, abstract things might in some ontologies presuppose concrete things. Because there might be some (broad-sense) properties which do not meet the status requirement, it might turn out that not all statements about E are presupposition-statements; this meets Mr. Beardsley's objection to the second version of Thesis 5. But Mr. Beardsley is

correct in surmising (as Mr. Shimony does also) that most of what we can say about an entity can be construed as a presupposition-assertion. This strengthens Thesis 4.

Mssrs. Beardsley and Anderson are right that I can't both hold Thesis 6 and assert, without qualification, that presupposition is transitive. If (in a given ontology) the property relation is transitive, then (by Thesis 6) it is superfluous to assert that presupposition is transitive. And the property relation would not be transitive only if we did not want commitment (and hence presupposition) to be transitive.

I don't understand Mr. Raab's point concerning our ability to suppose that presupposition relationships hold, unless he is really objecting to the usage "a presupposition holds," as Mr. Anderson does. To suppose something about a presupposition may involve asserting a proposition, but it does not transform the original presupposition into a proposition, if it was not one already, nor does it transform the relation of deduction (of a consequence from the supposition) into the relation of presupposition. Similarly for Mr. Anderson's point: where we say "E presupposes P," it looks as though we could also say "If E exists (holds, is non-empty, etc.), then P holds (is non-empty, exists, etc.)." This asserts an implication between propositions; and, if we can assert it, then we don't need the notion of *presupposition*. But the question is, what entitles us to assert this implication? We can do so only after intuiting that P's are in any E-universe.

Mr. Beardsley argues that, if presuppositions are properties, presupposition-statements are true by definition. Mr. Rorty presents this point in a more general form, suggesting that *my* presuppositions *can* only be semantic rules, and that presuppositions *are* normative. My reply to Mr. Beardsley is contained in my reply to Mr. Rorty: we do not first have rules (in particular, definitions) and then know what presuppositions there are; rather, in the important cases at least, we first discern something about the world (namely, presupposition relationships) which then guides us in formulating (or improving) our rules. I am interested in the non-arbitrariness of the decision-making process, while Mr. Rorty emphasizes the voluntaristic aspect and the

resultant decision. I grant Mr. Rorty that my way is in peril of vagueness; but my *analysis* is not much vaguer than contemporary pragmatics and meta-ontology, and to say that my *presuppositions* are vague is part of Thesis 7.

In support of my way, further, is the fact that only thus can Thesis 4 be justified. Mr. Sontag and I agree on this. To control discourse we need "a control," and this must be a common world, not merely the good wills of the disputants. Mr. Sontag makes the further specification that presuppositions exist only in the presence of a reasoning mind. This is unobjectionable, unless Mr. Sontag means that there is nothing in the world which we can discover and *discern as* a presupposition. Using "a presupposition" as I do in Thesis 6, many presuppositions (i.e., presupposed entities) do have ontological status even on Mr. Sontag's view. Mr. Sontag seems to question the status of the *relation* of presupposition, on the ground that relations are entities of reason. My reply is to deny the distinction between entities thinkable as thinkable and entities thinkable as unthought.

I agree with Mr. Beardsley (as Mr. Shimony surmises) that a presupposition is a necessary condition, but the issue concerns the analysis of the necessity. On his proposal the necessity would stem from definition and causality. But his analysis sins in omission; it would not apply, as mine does, in dialectical disputes where causal laws are in principle not available.

4. Mr. Raab is right that the presupposition *notion* is important; it signifies the content of the program announced by asserting a presupposition statement: (a) a hypothesis that the present dispute cannot be settled within its present limits, (b) a hypothesis about the nature of the world, and (c) a program of cooperative inquiry. The inquiry will involve intuition, hypothetico-deductive techniques, and possibly other means; and it will hopefully issue in agreement on rules and facts. The critics may disagree on whether the intuition is more than a mere guess about what will prove hypothetico-deductively fruitful. Otherwise, I see no real dispute here between Mssrs. Shimony, Sontag, Rorty, and me.

This remark answers Mssrs. Beardsley and Anderson's question about controlling dispute over controlling dispute. Also it

answers Mssrs. Beardsley and Raab's question about Thesis 7. The question properly is, *how* comprehensive a theory do we need? Answer: as comprehensive as is required by the particular case, which will sometimes be considerable.

5. Mr. Shimony objects that the discipline to which a concept belongs is not a function of its practical use; and, to discern that the world is so-and-so is a scientific or metaphysical enterprise. What I want to assert is that ethics (or meta-ethics) is *in principle* the only discipline interested in presupposition (or, presupposition *qua modal*). This is non-trivial but weaker than Thesis 3, hence Mr. Shimony's point is well taken.

6. The critics have shown that some refinements and modifications in my theses are needed. But it has not been shown that the concept defined in Thesis 6 is not a useful and needed supplementary technique for controlling discourse. The critics disagree about whether this concept is a valid analysans of "presupposition." But we might agree on this, that my theses (as amplified here) are a good analysis of the process whose result, for an important class of cases, is a decision that one entity is a necessary condition for another (where Thesis 6 analyzes "necessary condition" for these cases). Thus the basic insight of Theses 2, 6, 7, and 4 stands; I agree, however, that it is vague in theory and precarious in practice.

University of California at Riverside.

PLATO'S THEORY OF SENSATION, I

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In the first part of this paper, I shall present a detailed exposition of the theory of sensation in the *Theaetetus*. In the second part I shall attempt to prove that Plato accepts as true the theory described in the first part. I believe that the material in these two parts covers almost everything that Plato says about sensation in the dialogues.

1. *The Distinction Between Sensing and Perceiving.*

For a detailed study of the theory of sensation in the *Theaetetus*, it is necessary to distinguish sensing from perceiving. Unfortunately, there is no word in the original text which unambiguously stands for sensing. "Αἴσθησις" may be translated either as "sensation" or as "perception." Nevertheless, Plato's written word provides the means for distinguishing between sensing and perceiving. The objects of sensing are sense-data or sense-qualities,¹ what Plato calls αἰσθητὰ (156C)² and ποιότητες (182A);³

¹ "Sense-quality," we shall later see, is an ambiguous expression. It may denote the consciously intuited quale, or the physical correlate of such modes of awareness (cf. Sec. 6 below).

² Unless otherwise specified, Steph. numbers refer to the *Theaetetus*.

³ According to Cornford (*Plato's Theory of Knowledge* [London, 1946], p. 97n), the substantive "ποιότης" occurs in Greek for the first time in the *Theaetetus*. The corresponding adjective "ποιός," "of what sort," e.g., hot versus cold, is synonymous with the Latin "quale" while "ποιότης" is synonymous with the Latin "qualitas."

It is not clear why Plato coins "ποιότης." 182A-B strongly suggests that Plato intends a distinction between things (πράγματα) and their qualities (ποιότητες): "The agent comes to *have* a quality rather than *be* a quality" (my italics). We may conjecture that here Plato is renouncing the practice of certain pre-Socratics who look upon qualia (ποιός), e.g., hot, cold, wet, dry, as substances or things. For Plato, "The agent does not become hot-

he gives, as examples, particular colors, sounds, odors, pleasures, pains, emotions, and fears (156C; cf. *Charm.* 167D). The objects of perceiving are colored, sonorous, odorous *things* (156E).

Another way of stating the distinction, again within the limits of Plato's written word, is as follows. Sensation is private. The sense-object becomes "for me," for a unique subject at a specific moment and from a specific perspective. No two subjects can have exactly the same sense-object nor can the same subject have the same sense-object given at two different times or from two different perspectives (153E-154A), because subject and object are in perpetual change. The privacy of the sense-object guarantees the "unassailability" of what is sensed. But perceptual reports having reference to a public object are objective and subject to being tested, and to being either verified or discredited (170-171D; *Phil.* 38B; *Soph.* 264B).

Accordingly, throughout consideration of 151D-186E (this being the most extended discussion of the nature of sense-perception to be found anywhere in Plato's writings) the theory of sensation will be treated separately from the theory of perception.

151E-152C gives a preliminary account of sensation which, says Socrates, represents the unadulterated opinion of Protagoras. Protagoras operates on the theory that man is the measure of all things, of all things that are and of all things that are not. 152C-153C introduces the Heracleitean dictum, "All things are in flux," so phrased as to suggest that the view of Protagoras is a corollary of the flux theory. 153D-154B combines, for the first time, the maxims of Protagoras and of Heracleitus, and this dialectical

ness or whiteness but hot or white," or, more precisely, a hot or white thing (156E). In other words, the "agent" is not a ποιός but a ποιόν τι, and it is a ποιόν τι because it comes to possess a certain ποιότης. At 182A (Burnet's text) Plato says: "... καί τό μὲν πάσχον αἰσθητικόν ἀλλ' οὐκ αἰσθησι [ἔτι] γίνεσθαι, τό δὲ ποιῶν ποιόν τι ἀλλ' οὐ ποιότης;" Cornford (op. cit., p. 97) translates this passage as follows: "... and that the patient becomes perceptive, not a perception, while the agent comes to have a quality, rather than to be a quality." The translation is accurate idiomatically. But a more literal and still idiomatic translation conveys more precisely Plato's idea. So translated, the passage says: "... and, on the one hand, the patient becomes a sensing thing and not a sensation, while the agent becomes not a quality but a thing that has a quality."

combination introduces the theory of sensation which is elaborated at 156A-157C. The theory is finally and summarily repeated at 182A-D.

2. Preliminary List of the Elements of the Sensory Complex.

The theory of sensation expanded at 156A-157C is a multiple-relation causal theory. It is a multiple-relation theory because the complex describing the act of sensing is irreducibly hexadic. Its terms are: (i) the sensing organ = αἰσθητόμενον or πάσχον; (ii) the object perceived = ποιόν τι; (iii) the motion emanating from the sensing organ = προσβᾶλλον (154A); (iv) the motion emanating from the object perceived = προσβαλλόμενον (154A); (v) the sense-quality = ποιότης (182A); (vi) the "sensation" = αἴσθησις.

The theory is causal because the generation of (v) and (vi) is explained as being the effect of the intercourse (the metaphor is sexual) between (iii) and (iv), and these, in turn, become actualized as a result of the coming of (i) and (ii) "within range" (156D) of one another.

Among the commentators there is no uniform agreement as to the number, nomenclature, and characteristics of the motions. The following quotation from Ritter, a characteristic example of the way European scholars have rendered Plato's theory of sensation, is a case in point. Ritter writes:

The objects which we perceive through our senses become perceptible through their motion. Even the perceiving subject in the act of perception produces motion. These motions, which come from opposite sources, meet and influence each other reciprocally; and, in accordance with the dual nature of causes, the perceiving subject becomes conscious of the effects of this clashing of motions; on the objective side, he experiences it as a sense quality; on the subjective side, he experiences it as a perception of this quality.*

This is a programmatic rather than a detailed account and it is not as clear as it can be. Less programmatic though still not sufficiently detailed or clear is Brochard's interpretation: "... il

* Constantin Ritter, *The Essence of Plato's Philosophy*, tr. by Adam Alles (London, 1933), p. 135.

reste pourtant que cette existence du sensible, si fugitive qu'elle soit, est une existence : elle est autre chose et plus qu'une simple apparence subjective. C'est la matière qui, réellement et pour un moment, a pris telle forme, est devenue et est telle chose."⁶ Among the British commentators, Taylor believes that, "On the theory, the twin-product (sensation + sensed quality) is a function of the complex organism + environment."⁷ He thinks *τὸ προσβαλλόμενον* is passive and "is what we commonly call the 'external' object," while the active motion is *τὸ προσβάλλον*, the "visual ray" issuing from the eye.⁸ From my point of view, Taylor is mistaken (a) in reducing to four the number of terms essential to the sensory complex, (b) in characterizing *τὸ προσβαλλόμενον* as *passive*, and (c) in identifying it with the *ποιῶν*. Jackson,⁹ like Taylor, reduces the essentials of the sensory complex to four terms: *αἴσθησις*, *ποιότης*, *πάσχον*, and *ποιῶν*. Cornford¹⁰ is the most accurate of the four. He mentions all six factors: (1) *πάσχον*, (2) *ποιῶν* and (3 and 4) "the quick motions . . . between organ and external object. The marriage of these two motions generates [5] seeing and [6] color." This account is recapitulated and somewhat expanded on p. 237. But again, there is no systematic nomenclature and no detailed study of the terms within the sensory complex.

A full understanding of the theory of sensation requires a detailed study of the six terms which enter into the relational complex describing the physical mechanism of sensation. It is inadvisable to discuss these terms separately because they are in necessarily related pairs: *πάσχον* and *ποιῶν*, *προσβάλλον* and *προσβαλλόμενον*, *ποιότης* and *αἴσθησις*. And that is not all. Each one of these pairs of related motions is itself necessarily related to every other pair within the relational complex. To avoid confusion it is best to discuss these terms in pairs. Two of these terms,

⁶ V. Brochard, *Études de Philosophie Ancienne et de Philosophie Moderne* (Paris, 1926), p. 25, Ch. III contains an extended discussion of the theory of sensation in the *Theaetetus*.

⁷ A. E. Taylor, *Plato, The Man and his Work* (London, 1926), p. 330.

⁸ *Ibid.*, p. 327, n. 1.

⁹ H. Jackson, "Plato's Later Theory of Ideas, IV. *The Theaetetus*," *Journal of Philology*, XIII (1885), 242-72.

¹⁰ *Op cit.*, p. 50.

"αἰσθησις" and "ποιότης," are ambiguous. In Sec. 6, I shall discuss their psychic and corporeal senses. In keeping with the requirements of the theory, the account will be causal: πάσχον and ποιούν emit, respectively, προσβάλλον and προσβαλλόμενον, and προσβάλλον and προσβαλλόμενον generate ποιότης and αἰσθησις. But there is still one more link in this chain, the causally primary one, and that is the pair, κίνησις which has the δύναμην πάσχειν and κίνησις which has the δύναμην ποιεῖν (156A). This pair is metaphysically identical with, but epistemologically distinguishable from, the πάσχον-ποιούν pair. I shall begin with the metaphysically primary factors.

3. *The Metaphysically Primary Factors.*

The metaphysically primary factors, the things, that is, which have the powers of being acted upon and the powers of acting (156A), I shall call *physical objects*. These are the realities underlying what appear to us as "stock or stone" (156E). Stocks and stones are the things which populate the world as it is perceived; I shall, therefore, call them *perceptual objects*. The coolness of the wind as it is sensed is a ποιότης, a sense-datum¹⁰ but it is not, like the wind itself, a perceptual object, a ποιόν τι. All things physical neither are any "one thing" (152D, 157B),¹¹ nor do they

¹⁰ The expressions "physical object," "perceptual object," and "sense-datum" are not Plato's own. They are introduced as devices to avoid circumlocution and to emphasize certain necessary distinctions. I shall refer to the motions (κίνησις) having the power of acting and of being acted upon (156A) briefly as physical objects. These are to be distinguished from the patient (πάσχον) and the agent (ποιούν), either of which may be a ποιόν τι (e.g., when two eyes see one another). But a physical object as such is never ποιόν τι until it comes within range of an organ of sense in relation to which only does it acquire a sensible quality and thereby becomes ποιόν τι. Lastly, both physical and perceptual objects must be distinguished from sense-data, those components in immediate awareness which are sensed "infallibly."

¹¹ It is important to note that "thing" here refers to actually sensed qualities, for it is these that are "always in a process of becoming for someone" (157B). The metaphysical ground of sensing (the physical object) is a process of becoming, not for a sentient subject necessarily, but in causal relations to any other physical object whatever.

have, permanently residing in them, any determinate sense-qualities such as *sensed-red* or *sensed-sweet* (153D). This last is consistent with 182A: "The agent *comes to have* a quality, rather than to be a quality." The "agent" is the perceptual object, the *ποιόν τι*, the thing which appears to have this or that determinate sensed-quality, whereas the unperceived ground of sensing has no determinate sense-qualities (156E-157).¹² This means that, in themselves, physical objects are not to be identified with this sense-quality or that, nor are they to be regarded as a determinate bundle of sense-qualities such as sensed-red, sensed-sweet, and the rest.

The *Theaetetus* takes physical objects to be motions (*κίνησεις*). In the theory stated at 156A-157C, the concept of motion (*κίνησις*) includes that of power (*δύναμις*). To say it another way, *δύναμις* is a special kind of *κίνησις*. *Κίνησις* has two forms (*εἶδη*): (1) translational motion (*φορά*), and (2) qualitative change (*ἀλλοίωσις*) (181D). The extreme Heracleitean concept of *κίνησις* refuses to recognize any demarcation between things characterized by *φορά* and things characterized by *ἀλλοίωσις*, with the result that anything mentionable in the world must be, for the men of flux, "always in every kind of change" (182A). Plato rejects this view on the ground that it makes nonsense of language about non-sensible entities, e.g., sensation and knowledge (182E).¹³ Plato's sensible world, as described in the *Timaeus*, is orderly process and therefore comprehensible but not *intelligible*; it is something quite different from the thought-destroying flux of the extreme Heracleiteans.¹⁴

These considerations lead me to suspect that the concept of *κίνησις* in the theory of sensation at 156A-157C is different from the one ascribed at 182A to the extreme Heracleiteans. *Ἀλλοίωσις*

¹² Note that "sense-qualities" indicates sensorily apprehended *qualia*, e. g., sensed-red, sensed-sweet. These are to be distinguished from the hidden powers possessed by physical objects.

¹³ Cf. *Crat.* 413A, where it is maintained that definition is impossible under the flux theory.

¹⁴ Cf. Ritter, op cit., p. 141 and n. 2: "... reality [in flux] cannot be thought of as mere motion, but a certain constancy, a permanency, must be in some way perceptible in the motion We may say, a law which enables us to know and to designate motion of a definite kind."

and *φορά* are conceptually different but nothing prevents any particular thing in *φορά* from being also in *ἀλλοίωσις*. Things whose characteristic motion is *φορά* are also capable of *ἀλλοίωσις*, and vice versa. That is to say, the theory at 156A-157C does not deny what is said at 181D, namely, that the quality (*ποιότης*) and the sensation (*αἴσθησις*) undergo *ἀλλοίωσιν* while they are in *φορά*. The criticism at 182D-E suggests, however, that there must be some order in this movement in a degree sufficient to allow for an intelligible application of language to physical reality. The *κίνησις* of the extreme Heracleiteans, being lawless, is incomprehensible. In contrast, *κίνησις* at 156A can be taken as an orderly blend of *ἀλλοίωσις* and *φορά*, and that is how I take it for the following reason. Plato's acceptance of the theory of sensation as a true account of the matter¹⁵ means that Plato must have thought the theory to be capable of intelligible statement, and this is impossible if *κίνησις* is taken in the extreme Heracleitean sense (182D-E), because the extreme Heracleitean view makes nonsense of language. This conclusion resolves a seeming contradiction. At 156C, Plato says, "The slow sort has its motion without change of place," and at 181E he forces the extreme Heracleiteans to admit that "everything is in both sorts of change—both in *ἀλλοίωσις* and *φορά*." This is not self-contradictory¹⁶ because, on our view, 156C is Platonic doctrine while 181E is extreme Heracleiteanism. Hence we conclude: the philosophically acceptable sense of "*κίνησις*" must be synonymous with "process," where "process" is an abbreviation for "becoming, ruled and persuaded by reason or order." This restriction of *κίνησις* to orderly as against chaotic movement in the temporal processes of nature ties in with another of Plato's radical departures from extreme Heracleiteanism. This departure, lurking but never explicit in the *Theaetetus*, consists in the assumption that there must be some unchanging, atemporal realities (i.e., the Forms) which are fixed termini of process and the objective correlates of linguistic meanings.

¹⁵ The proofs of this contention are forthcoming in Part II.

¹⁶ Ritter, *op. cit.*, p. 141, recognizes this problem but resolves it somewhat differently.

On this view, the things which have the powers of being acted upon and those that have the powers of acting (156A), things which collectively I designate by "physical objects," are strands of process, centers of hidden powers. The powers of acting and of being acted upon are potential.¹⁷ They become actual (manifest themselves in action) when two centers of activity come "within range" (156C). The evidence for all this is at 156A-157A. The "universe" (156A) is the Heracleitean world of physical process. This universe of motion is made up of centers of activity which possess powers of acting upon and of being acted upon by one another (156A). These centers of activity are alternatively said to be "slow motions" (156C) which do not change except "in respect to what comes within range" of them (156C).

The physical universe envisaged by this theory is a whole of interrelated parts. The parts are strands of orderly process, centers of powers, and the actualizing of these potential powers, which is the mark of physical reality (*Soph.* 247E), can take place only if every strand or center of process is in the relation of mutual interference with other strands of process (156C). This sentence at 156C is of crucial significance. It amounts to saying that ἀλλοίωσις, the motion characteristic of the "slow motions" (156C), is not an internal self-induced change in physical things but rather it is a modification physical bodies undergo only when in dynamic contact with other physical bodies. To be real (in any sense) is to be related. Nothing physical, whose reality is its capacity for process, can be in process in isolation from other physical bodies (156C). This view agrees with Plato's theory of motion. There is a motion that is moved, and there is a motion that is self-moving. The former is the motion characteristic of becoming. It takes a physical body to move another physical body (*Laws* 894B; *Phaedrus* 245D). (In view of the *Theaetetus*, especially 156C, the moved motion may be either ἀλλοίωσις or ἑρπῆς.)

The "slow motions" of 156C are the metaphysically (and, therefore, causally) primary components of the physical world.

¹⁷ Cf. R. G. Bury, "Δύναμις and Φύσις in Plato," *The Classical Review*, VIII (1894), p. 298.

Each center of activity is a *φύσις*, a substantial nature or constitution, something metaphysically original, the unperceived ground¹⁸ of sensibly apprehended things. Each center of activity manifests its hidden powers (its causal efficacy) through the efficient activity of its own unperceived powers.¹⁹ When at least one of the centers of activity is an organ of sense, the acting powers of the sensing organ and of the object perceived will be called *προσβάλλον* and *προσβαλλόμενον* respectively.

4. *The Προσβάλλον and Προσβαλλόμενον.*

First, I shall argue that although they are mentioned by name only once, and that in connection with visual sense-acts (154A), "*προσβάλλον*" and "*προσβαλλόμενον*" are general names designating two specific factors in any sense-act whatever. "*Προσβάλλον*" stands for any *δύναμιν* emanating from a sensing organ and "*προσβαλλόμενον*" stands for any *δύναμιν*, homologous (*σύμμετρον*, 156D) with the *προσβάλλον*, emanating from any object perceived. At 156C, Socrates is giving a general account of sensing. He illustrates the general account by the case of vision (156D). This means that the factors which we assume in vision must be also assumed in the other modes of sensing because Socrates seems to believe, in good faith, that his particular illustration is adequate to cover the essentials of all other modes of sensing. The case of vision is taken up at 153E-154A. "What we say 'is' this or that color will be neither the eye which encounters the motion nor the motion which is encountered" (154A). The motion which the eye encounters is the *προσβαλλόμενον*. The motion which is encountered is the *προσβάλλον*. The account is continued as follows: when a white physical object and an eye come within range, "the vision from the eyes

¹⁸ This is not a Kantian *Ding an sich*. A noumenon which in fact exists is a *Ding an sich*, but we can never know whether a noumenon exists or not. In the above theory, not only is the existence of the unperceived ground of sensorily apprehended things assumed, but in the *Timaeus* (159D) a "probable" account is given of their formal constitution. (See below, end of Part II.)

¹⁹ Cf. Bury, op. cit., p. 299.

and the whiteness from the thing that joins in giving birth to the color pass in the space between" (156D-E), and the mutual interaction of "vision" and "whiteness" gives birth to the twins ποιότης + αἴσθησις (182A). In this passage "whiteness" does not name a sense-quality (ποιότης): "in the absence of any spectator, there are, strictly speaking, no colors—only changes capable of causing such sensations."²⁰ "Whiteness" names one of the two pre-conditions for the production of the ποιότης (i.e., the "color"; cf. 156E). I take "whiteness" at 156E to denote what "προσβαλλόμενον" denotes at 154A. From my point of view, the ποιότης and the προσβαλλόμενον are not at all the same. Ποιότης is the sense-organ stimulating quality. The προσβαλλόμενον is a δυνάμεις, emanating from the purely corporeal center of physical activity called (within the relational complex of sensing) the agent (ποιούν). The προσβαλλόμενον strikes the "vision" (156E), which I take to denote what "προσβάλλον" denotes in 154A. Literally, προσβάλλον and προσβαλλόμενον are, respectively, "that which strikes" and "that which is struck."²¹ In the case of vision, τὸ προσβάλλον is the visual ray which, on the searchlight view of vision inherited by Plato from Empedocles, the eye sends out to meet the sight-producing ray, τὸ προσβαλλόμενον, coming from the object seen.

The text provides further grounds for thinking that this view of a motion emanating from the sensing organ and a motion emanating from the object perceived extends beyond vision. Tasting requires the same factors: "In accordance with the account we accepted earlier, agent and patient give birth to sweetness and a sensation [i.e., ποιότης and αἴσθησις], both movements that pass simultaneously" (159D). But the "earlier account" at 154A clearly says that the ποιότης (a color) and the corresponding αἴσθησις (a color-sensation), are things which *have arisen* as a result of the encountering of the two motions, τὸ προσβάλλον and τὸ προσβαλλόμενον. To square these two accounts with one another, it must be understood that the ποιότης at 159D (a taste-quality,

²⁰ F. M. Cornford, *Plato's Cosmology* (London, 1937), p. 205.

²¹ Cf. Liddell and Scott, under "προσβάλλω." The text (153E) calls them κινήσεις and this is entirely in accord with the present interpretation, according to which every δυνάμεις is a form of κίνησις, and τὸ προσβάλλον and τὸ προσβαλλόμενον are δυνάμεις whose mode of activity is φορά.

e.g., sweetness), and the corresponding αἰσθησις (the physical stimulus for tasting the sweetness), are things which have arisen as a result of the encountering of two motions (φοραί), τό προσβάλλον and τό προσβαλλόμενον.²³

Having argued in favor of the hypothesis that προσβάλλον and προσβαλλόμενον take part in all forms of sensing, and not just in vision, we are led to our next point. It is the meeting of a προσβάλλον and a προσβαλλόμενον, and not the direct contact of πάσχον and ποιῶν themselves as a whole, that causes a specific αἰσθησιν and its correlative ποιότητα to become actualized.

Take the case of a pellet of camphor. The eye sees it as a white sphere of a certain size; the nose smells it as having a characteristic "camphor" odor; the ear would hear a sound if the pellet were dropped within earshot (i.e., when πάσχον, the ear, and ποιῶν, the pellet, were "within range"); the skin receives a certain touch-sensation when it comes in contact with the pellet; and, if we wanted to taste it, the tongue would receive a characteristic bitter taste-sensation. Now, there are two points to keep in mind. No sense-organ can perform the function of another sense-organ (185A),²³ and the ποιότης is "something which has arisen between the two [i.e., between προσβάλλον and προσβαλλόμενον] and is peculiar to each" such pair (154A). All this amounts to saying that the προσβάλλον from the eye is "adjusted (σύμμετρον, 156D) only to one class of προσβαλλόμενα, namely those having to do with whatever it is in the pellet that makes it appear white to the eye. The προσβαλλόμενον homologous with the visual προσβάλλον is not homologous with the auditory προσβάλλον, nor with the taste προσβάλλον and so for the rest.²⁴ On the one hand, it is the same ποιῶν, the pellet, which reacts with the eye through the agency of a visual προσβαλλόμενον, with the nose through the agency of an olfactory προσβαλλόμενον, and so on. On the other hand, any one πάσχον, say the eye, can see an innumerable mul-

²³ At *Tim.* 67B, sound-sensations require a medium, air, in which to occur. A particular heard-sound is caused by particular air waves striking the ears and thence passing on into the brain. Here the προσβαλλόμενον is an air wave.

²³ Cf. *Rep.* 352A.

²⁴ See 156D, especially just before E.

tiplicity of colored perceptual objects each one of which is a different *ποιούν*. The inference is that the *προσβάλλον* from the eye can react only with a *προσβαλλόμενον* which is the activity of something potentially visible. The pellet as a whole, as a unified center of activity, is necessary insofar as it comes "within range" of the eye bearing a potentially visible *δύναμις ποιεῖν*, but the pellet *as a whole* does not enter into a visual sense-act because, for that, the only factors necessary and sufficient are (a) daylight, (b) a potentially visible *δύναμις ποιεῖν*, and (c) a potentially seeing *δύναμις πάσχειν* (e.g., the "visual ray"). Speaking from the point of view of the eye, we come to the same conclusion. The eye is a certain center of physical activity, a certain *οὐσία*, whose *ἀρετή* (cf. *Rep.* 352A) is the power of vision. But there is more to the eye than just its *ἀρετή* because the eye is not only potentially seeing but also *potentially visible*. It follows, therefore, that in the act of exercising its proper excellence (*ἀρετή*), not every power in the eye, but only that which expresses its *ἀρετή*, is the necessary factor.

5. *The Πάσχον and Ποιούν.*

So far we have discussed (a) the *κινήσεις* having the *δύναμις ποιεῖν* and the *δύναμις πάσχειν* (156A), and (b) the correlative *δυνάμεις προσβάλλον* and *προσβαλλόμενον*. The *κινήσεις*, or "slow motions without change of place" (156C), are assumed to be, as we understand it, strands of orderly process, invisible centers of physical activity. From their "intercourse and friction" with one another, certain "offspring" are produced (156A, C-D). In the order of explanation, the first pair of offspring is not the *αἰσθησις* and its correlative *ποιότης*, but the *προσβάλλον* and its correlative *προσβαλλόμενον*.

The next pair under discussion is the *πάσχον* and *ποιούν*. This particular pair is related as "patient" to "agent." The patient-agent relation defines perceptual objects and relates the invisible *κινήσεις* of 156A with the "stocks and stones" (156E) of our perceptual world.

Agent and patient do not differ in that the former are energetic, the latter lethargic. "Active" and "passive" are adject-

tives used simply as a device to differentiate two radically unlike centers of physical activity, object (agent) and subject (patient).²⁵ Activity goes on between any two centers of physical process in purely corporeal causal interaction. Object and subject are interchangeable, depending upon one's point of view. The object is called an "agent" and the subject a "patient" only in a special case of physical interaction, namely, when one of the interacting centers of activity is intimately and uniquely connected with a mind (184D), in which case it is called an organ of sense. The patient acts as much on the agent as the agent acts on the patient (156E). The relation binding them is not activity-passivity, but a thorough-going dynamic interaction.

The point at which *προσβάλλον* and *προσβαλλόμενον* strike each other is the locus of initial interaction between physical object and organ of sense. On the side of the physical object, the action of the *προσβάλλον* on the *προσβαλλόμενον* endows the physical object with a *ποιότης* so that the *ποιῶν* becomes a *ποιόν τι*, a thing of such and such sensible quality, a perceptual object. On the side of the organ of sense, the action of *προσβαλλόμενον* on *προσβάλλον* actualizes the power of sensing potential in the organ, so that the organ of sense becomes not an *αἰσθησις* but an *αἰσθανόμενον*, a sensing organ (156E, 159E). All of this happens all at once. The causes and effects are simultaneous.

Strictly, agent (*ποιῶν*) and patient (*πάσχων*) are actual only when related within a sensory complex: "For there is no such thing as an agent until it meets with a patient, nor any patient until it meets with its agent" (157A). Things are physical objects before they become agents and patients. The epistemological situations into which physical objects enter are simply events in the life histories of continuous physical processes. In that sense, physical objects are existences independent of anyone's sensations or perceptions. Actual physical objects are *potential* agents and patients.²⁶ Potential agents and patients become actual only when

²⁵ Within the limits of the theory, the patient (*πάσχων*) is always a sensing organ, not the "mind." The mind is not mentioned until 184D.

²⁶ Cf. J. Souilhé, *Etude sur le terme Δύναμις dans les Dialogues de Platon* (Paris, 1919), p. 164 n. See also Bury, op. cit., p. 298, and Cornford, *Plato's Cosmology*, p. 258.

the *προσβάλλον* and *προσβαλλόμενον* strike one another. The potential agent X and the actual agent corresponding to it, say a stone S, are one continuous process. The physical X is simply *perceived* as the *ποιόν* π. S. The potential patient becomes, within the same relational complex, an actual patient, an actually sensing organ. Perceptual objects and sensing organs are, therefore, ontologically identical with, and only epistemologically distinguishable from, the *κινήσεις* mentioned at 156A.

6. *The Corporeal and Psychic Senses of "Αἴσθησις" and "Ποιότης."*

Simultaneously with the impact of *προσβάλλον* and *προσβαλλόμενον* is generated "the twin-product" *αἴσθησις* and *ποιότης* (sensation and quality). When their respective centers of activity bring the *δύναμις πάσχειν* and the *δύναμις ποιεῖν* "with range" of one another, (1) the *δύναμις πάσχειν* acts as *προσβάλλον*, the *δύναμις ποιεῖν* as *προσβαλλόμενον*; (2) *προσβάλλον* and *προσβαλλόμενον* strike each other on a line between their sources of origin (156E); and (3) the striking together and fusion of these two energies generate a single continuous pencil of energy from the surface of the sensing organ to the surface of the perceptual object. At this stage, the physical basis of sensing consists of three physical motions, the *ἀλλοιώσεις πάσχον* and *ποιούν*, and the *φορά* which is the pencil of energy connecting the *πάσχον* and *ποιούν* (156B-E, 182A). Plato says that the impact of *προσβάλλον* and *προσβαλλόμενον* generates the "twin-product" sensation and quality.

Briefly, I think this is what Plato means by the last sentence. The continuous pencil of energy stimulates the sense-organ, causing a transmission of the sensory impulse to the mind (Plato does not say how). The mind acts, or, if you prefer, there occurs the mental act of sensing, and the object sensed by this mental act is a sense-datum, e.g., a sensed-red. So far we have the mental act of sensing, the quale sensed, and the pencil of energy which is the physical basis of these mental occurrences. This same pencil of energy causes the surface of the *παρὸν* to acquire a sensible quality. The sensible quality on the surface of the *ποιούν* is analogous, if we take the example of colors, to the physical waves which physics says are the physical correlates of, e.g., sensed-red.

The sensible quality playing upon the surface of the visible object is itself an invisible *δύναμις*. It is sensed *as* the sense-datum sensed in the psychic act of sensing. We have altogether four terms to distinguish: the mental act of sensing, the sense-datum which is the object of the mental act of sensing, the energy playing upon the surface of the *ποιῶν*, and this same energy playing upon the surface of the *πάσχον*. We have then two senses for "*αἴσθησις*": the psychic act of sensing (call it *αἴσθησις*₁), and the physical pencil of light *as* it hits the sense organ (call it *αἴσθησις*₂). We also have two senses for "*ποιότης*": the mentally apprehended sense-datum (call it *ποιότης*₁), and the physical correlate of the sense-datum, namely the pencil of energy *as* it is playing upon the surface of the perceptual object. Let us call the physical correlate of the sense-datum *ποιότης*₂. An example of *ποιότης*₂ would be the energy waves playing upon the surface of an object which is *seen as red*. Let me point out that *ποιότης*₂ and *αἴσθησις*₂ are names of the same thing, namely the pencil of energy between *πάσχον* and *ποιῶν*. By giving this one thing two different labels, I mean simply to call attention on the one hand to its relation to the *ποιῶν*, and on the other hand to its relation to the *πάσχον*. I shall now try to substantiate my interpretation.

The physical complex of sensation is a chain reaction set off by the impact of *προσβάλλον* and *προσβαλλόμενον*. The end result is a sensation, but in view of 184D,²⁷ the conclusion is inescapable that what is called "sensation" at 156B in reality refers to the physical state (*ἀλλοίωσις*) of the stimulated sense-organ and not to the actual act of sensing which, according to 184D, is a mental act. See 156E: "The eye becomes not vision but a seeing eye." The act of sensing, no less than the act of perceiving, is a mental act which would be impossible without a mind using the senses as instruments in order to grasp sense-objects (186C). It is also

²⁷ Cf. *Phaedo* 79C; also *Tim.* 42A, 43C. Here Plato's language may be read as saying that the motions called "sensations" are identified and named by the fact that they "assail the soul" (44A, 45-C-D). See also *Phil.* 33E: "Let us imagine affections of the body which are extinguished before they reach the soul, which remains unaffected by them; and again, other affections which vibrate through both body and soul, and impart a shock to them both."

clear, both from the account given at 156-157C and from 184D and 186C, that the mental act of sensing depends upon the occurrence of certain physical events. The senses are the last of the physical instruments which induce in the mind an act of sensing (184D; cf. *Phil.* 33E-34A). "Αἰσθησις," therefore, has a double meaning. In its corporeal sense (156E, 156D), αἰσθησις is a physical δύνάμις in the form of φορέα. In its psychic sense it is a mental act (184D, 186C; *Phil.* 33E-34A).

Corresponding to the corporeal and psychic aspects of αἰσθησις are the corporeal and psychic aspects of ποιότης. 156BC speaks of "The brood of things sensed [which] always comes to birth at the same moment with one or another of these—with instances of seeing, colors of corresponding variety; with instances of hearing, sounds in the same way." The "brood of things sensed" comprises sense-objects (αἰσθητὰ). "Sense-object," "αἰσθητόν," "sense-datum," and "ποιότης₁" are all synonymous. The theory says that at the same moment the ποιεῖν becomes a certain ποιεῖν τι, with instances of seeing, colors come into being. We have already exposed the ambiguity in the word "seeing." Now we are faced with a similar ambiguity in the word "color." Words like "color" may mean either (a) the physical concomitant (e.g., light waves), or (b) the immediately intuited sense-*qualia* which are said to be in a one-to-one correspondence with their respective physical concomitants. Which of these are the proper objects of the mental act of sensing: the light (or sound) δυνάμις (ποιότης₂) or the intuited *qualia* (ποιότης₁) corresponding to them? Plato's answer is hidden but lends itself to the following interpretation. As a corporeal process (156B, 156C, 182A),²⁸ ποιότης₂ is a δύνάμις which stimulates the organ in a specific way, and for every such specific organ stimulation there is a corresponding state of mind, in which ποιότης (ποιότης₁) figures not as a corporeal δύνάμις but as an intuited *quale*, e.g., a sensed-red or a sensed-sweet. Sensed-red, sensed-sweet, sensed-pain, and the like (156B-C) are among the things "that the mind contemplates . . . through the bodily

²⁸ At 182A, whiteness and the like are things that "move in place." That which partakes of φορέα (moves in place) is corporeal, and since whiteness is here called "ποιότης," ποιότης at 182A is a corporeal δύνάμις.

faculties" (185E). They are "the impressions which penetrate to the mind through the body" (186C). These sensed-qualities represent the qualities ($\pi α ι δ ὶ τ η ς_2$) of external bodies acquired during the act of sensing (156E, 159E). Every quality acquired by the $\pi α ι δ ὶ ν \tau ι$ during the act of sensing is a $\varphi ο ρ ᾶ$ ($\pi α ι δ ὶ τ η ς_2$) "moving in the region of the wine" (159E) (or of any other perceptual object) and, being a physical energy, it must be different from the sense-object, sensed-sweet, which is apprehended by the mind through the taste-organ (184D).²⁹ Throughout the remainder of this essay, I shall use the expression "sense-datum" to refer to $\pi α ι δ ὶ τ η ς_1$.

If the above discussion convinces the reader that the theory of sensation at 156A-157C describes not the whole of sensation but its physical basis only, and that to complete the account, the psychic factor must also be mentioned,³⁰ the results may be schematized as follows:

Psychic: Corporeal:: Act of sensing ($\alpha ἰ σ θ ῆ τ η ς_1$): $\alpha ἰ σ θ ῆ τ η ς_2$::
Sense-datum ($\pi α ι δ ὶ τ η ς_1$) : $\pi α ι δ ὶ τ η ς_2$.

7. *The Relational Properties of Sense-Data.*

Because of their relation to the $\pi α ι δ ὶ ν \tau ι$ and the $\alpha ἰ σ θ ἄ ν ῳ μ ῆ ν ο ν$, sense-data have certain epistemologically important relational properties. As we understand it, sense-data are the objects of $\alpha ἰ σ θ ῆ τ η ς_1$, and, therefore, they are in some sense mental. The sense-object can exist nowhere outside a mind in the act of sensing (185E, 186C). It is mental, therefore, at least in this sense. Elsewhere in the *Theaetetus*, and also in the *Timaeus* and

²⁹ Otherwise the physical process would have to be taking place in the mind. Cf. 184D ff. *Phil.* 21C-D, 32C, 34C, and 38C, where the sense-object given to the soul is called an "image." Now we shall see in Part II that a $\delta ῶ ν α μ ι ς$, being imperceptible, cannot be an "image," and there is no doubt that the $\pi α ι δ ὶ τ η ς$ "moving in the region of the" $\pi α ι δ ὶ ν \tau ι$ (159E) is a $\delta ῶ ν α μ ι ς$ whose mode of activity is $\varphi ο ρ ᾶ$. The conclusion from this is, that what the soul grasps and what moves in the region of the $\pi α ι δ ὶ ν \tau ι$ are two different things.

³⁰ See *Phil.* 33E, according to which the whole physical process could occur without touching consciousness. In such a case no sense-datum would be sensed and the process would have no cognitive significance.

Philebus, there are passages which may be taken as textual evidence to support this conclusion. At 191D, memory is compared to a wax tablet. We hold the wax tablet under our sense impressions and "whatever is so imprinted we remember and know so long as the image remains." This clearly implies the existential mind-dependence both of immediately sensed data and of memory data. What is said about sense-qualia applies, *mutatis mutandis*, to perceptual entities as well (191D). At *Tim.* 164B and 43C, again, the implication is that sense-qualia are existentially mind-dependent. Finally, at *Phil.* 38, it is certain that Plato attributes "the power of discernment" to memory and the act of sensing, both of which are states of mind, hence their respective objects that must be constituents of such states of mind. For at *Phil.* 33E, Plato says that the soul is "unconscious" (34A) of those "affections of the body which are extinguished before they reach the soul," whereas it is "unforgetful of . . . [those] affections which vibrate through both soul and body, and impart a shock to both of them."

The conclusion is that the "sensation" mentioned at 156A and later at 188E-189A has two senses, one physical, the other psychic. The physical sense of "sensation" names the pencil of energy between *πάσχον* and *ποιούν* as it is acting on the *πάσχον* (or rather the *αἰσθανόμενον* or sensing organ). The psychic concomitant of this pencil of energy is a complex state of mind analyzable into an act of sensing (*αἰσθησις₁*) and the object sensed (*ποιότης₁*). The latter is an existentially mind-dependent sense-qualia or datum.

The *προσβάλλον* and *προσβαλλόμενον*, which fix the agent-patient relationship, fix also the relationship of the sense-datum (*ποιότης₁*) to the agent and patient. The *αἰσθησις₂*, as sense-organ stimulant, is *private* to its own sense-organ (152C). It is incapable of being shared by the other sense-organs of the same percipient (185A), or by the same type of sense-organ of another percipient (152B-C, 154A). Also, because of the dynamic character of the agent-patient relationship, the sense-stimulant is also *unique*, not repeatable (154A, 159A-E). The relational property of *uniqueness* means also that the *αἰσθησις₂*, as sense-organ stimulant, is qualitatively dependent upon its particular *πάσχον* and *ποιούν*. The physical

properties of $\pi\acute{\alpha}\sigma\chi\omicron\nu$ and $\pi\omicron\omega\omega\acute{\nu}$ determine the qualitative powers of the sense-organ stimulant (cf. 159E). But inasmuch as the corporeal $\alpha\acute{\iota}\sigma\theta\eta\sigma\iota\varsigma_2$ is the cause of a corresponding sense-datum, there must be, for every corporeal $\alpha\acute{\iota}\sigma\theta\eta\sigma\iota\varsigma_2$, private and unique to its own sense-organ, a sense-datum ($\pi\omicron\iota\acute{\omega}\tau\eta\varsigma_1$) private and unique to the mind which intuits it. And this intuited sense-datum, already said to be existentially mind dependent, now turns out to be qualitatively dependent upon the physical properties of the $\pi\acute{\alpha}\sigma\chi\omicron\nu$ and the $\pi\omicron\omega\omega\acute{\nu}$ to which it is related through the sense-organ stimulant. Thirdly, the apprehension of the sense-datum is *infallible* from the point of view of the intuiting mind (152C, 160C-D, 171E, 179C). Privacy, uniqueness, infallibility, existential mind-dependence, and qualitative dependence upon $\pi\acute{\alpha}\sigma\chi\omicron\nu$ and $\pi\omicron\omega\omega\acute{\nu}$, all turn out to be not intrinsic but relational properties of the sense-datum.

8. *Summary of this Part.*

Following the order of exposition in the *Theaetetus*, this paper describes how sensing takes place by assuming the existence of certain metaphysical entities, which I have called physical objects, and which make up the natural world. Physical objects are strands of orderly process; they are unitary, individualized centers of physical activity. Each center of activity has a vast number of powers, the $\delta\acute{\upsilon}\nu\alpha\mu\iota\varsigma\ \pi\omicron\iota\epsilon\acute{\iota}\nu$ and the $\delta\acute{\upsilon}\nu\alpha\mu\iota\varsigma\ \pi\acute{\alpha}\sigma\chi\epsilon\acute{\iota}\nu$. The mutual interaction of a $\delta\acute{\upsilon}\nu\alpha\mu\iota\varsigma$ from a purely corporeal center and a homologous $\delta\acute{\upsilon}\nu\alpha\mu\iota\varsigma$ from a special kind of corporeal center, namely a sense-organ, gives rise to a single pencil of energy between sense-organ and physical object. The end of the pencil touching the physical object endows it with an acquired quality. The acquired quality is itself a $\delta\acute{\upsilon}\nu\alpha\mu\iota\varsigma$. The other end of the pencil of energy touching the sense-organ stimulates the sense-organ, and, in a single movement of body and soul, the mind apprehends a sensed quality. The sensed quality is what the acquired quality is sensed *as*.

Now I shall reverse the order of exposition, hoping thereby to accomplish two things: first, to enable the reader to become a little clearer about this complicated sensory mechanism, and

second, by reversing the order, which means by beginning with the sense-datum, I hope to suggest briefly the role of the sense-datum in empirical cognition. The sense-datum is the mental concomitant of the acquired quality of a perceptual object. If the sensed quality is red, it is because the acquired quality is an energy wave for the production of a red sense-datum. The physical constitution of the acquired quality determines the quality of the sense-datum. If the sense-datum is red, the perceptual object is "seen" as a red *thing*. "Seen" really means apprehended by the mind because the "seeing" of a red perceptual object is more than just sensing a red sense-datum.

There are two assumptions in the theory: that appearances are variable and evanescent but that the reality behind the appearances must be relatively permanent even though it is not static. Because what appears in sensing is an appearance, the reality behind the appearance must be a theoretical and not a sense-knowable object. It can be plausibly argued that in Plato's system these theoretical physical objects, the metaphysically basic units of the natural world, are determinate bundles of embodied Forms. This is one of the topics to be discussed in Part II.

(To be concluded.)

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NOTES AND OBSERVATIONS

ON THE SIGNIFICANCE OF SPACE-TIME

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SINCE Einstein's creation of the theory of relativity in 1905, the mathematical, physical, and metaphysical significance of space-time has been much discussed. In these notes, I should like first to trace the root meaning of the "fusion" of space and time in the mathematical formulations of the theory of relativity; then, to examine the variety of possible (and actual) physical interpretations of these mathematical formulations; and finally, to indicate the pitfalls which must be avoided in metaphysical extrapolations from the theory of relativity.

Mathematically, the fusion of space and time may be explained as follows. In pre-relativity physics, space was envisaged as a three-dimensional Euclidean continuum. Such a continuum is homogeneous (no preferred points) and isotropic (no preferred directions), and its metrical character can be specified by the definition of the distance between any two points in the continuum: $s^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2$. Now, while it is possible to speak of a four-dimensional continuum in pre-relativity physics by adding the time-coordinate to the three space-coordinates, there is no way, corresponding to the definition of s , to define the spatio-temporal "separation" or "interval" between any two points in this new four-dimensional continuum. Thus, while it makes sense from the classical point of view to ask for *the* distance between two points in space (say, Chicago and New York), it does not make sense to ask for *the* spatio-temporal interval between two events occurring in different places at different times (e.g., an event occurring in New York and an event occurring in Chicago one hour later). The spatio-temporal interval between non-simultaneous, spatially separated events is simply not defined in pre-relativity physics (mathematically: no metric is defined for the four-dimensional continuum of classical physics). Another way

of putting it is that in classical physics space and time are measured in entirely disparate units (such as centimeters and seconds) and no method is provided for making these units comparable with one another. In relativity physics, on the other hand, light—or rather the velocity of light—provides the means for making the results of spatial and temporal measurement comparable quantities: one simply multiplies the time-like intervals by c , the fixed velocity of light, in order to obtain space-like intervals. The interval between any two events is defined as: $s^2 = (x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2 - c^2(t_2 - t_1)^2$. Interval, so defined, is an invariant (i.e., it has the same value for all observers), whereas spatial and temporal “separation” are now relative to the state of motion of the observer. The geometry of the four-dimensional continuum characterized by this formula is called “semi-Euclidean” (in Euclidean geometry the algebraic signs preceding each of the coordinate increments [squared] are all positive).

Now, on the basis of this mathematical representation, what can be said about the relation between space and time? Clearly, the space and time variables occur on an equal footing in the formula for interval—except for the matter of algebraic sign, which, indeed, is what serves to distinguish the three space-coordinates from the time-coordinate. One might be tempted to say that the space-coordinates are more fundamental because the time-coordinate, t , is converted into a spatial quantity on multiplication by c , a velocity. However, a simple division by c^2 yields an alternative, equally acceptable definition of interval in which all the space-coordinates are converted into temporal quantities, viz: $s^2/c^2 = (x_2 - x_1)^2/c^2 + (y_2 - y_1)^2/c^2 + (z_2 - z_1)^2/c^2 - (t_2 - t_1)^2$. Equally mistaken would be the assertion that, since the time-coordinate is imaginary ($\sqrt{-c^2 t^2} = ict$), the space-coordinates are somehow more ultimate or fundamental. In this case, mere multiplication of each term in the expression for interval by -1 would yield a new, equally acceptable definition of interval in which the time-coordinate was real and the space-coordinates imaginary. Since the considerations sketched above can easily be seen to apply also to the general theory of relativity (where an analogous but more general expression for interval is introduced), I conclude that from the mathematical point of view space and time retain

their individual characters in the theory of relativity and neither is reducible to the other.¹

I turn now to the physical interpretation of the spatial and temporal coordinates (x, y, z, t) in the theory of relativity. In Einstein's original version of the special theory of relativity, space is measured by means of rigid rods and time by means of ideal clocks, and these two modes of measurement appear to be equally primitive and irreducible. Furthermore, the central role accorded the definition of simultaneity in this theory does not really imply any priority of time over space, because the very definition of simultaneity requires the measurement of distance by means of rigid rods. In later writings, however, Einstein explains how an ideal clock can be constructed out of rigid rods, mirrors, and light rays—which, in effect, reduces temporal measurements to spatial measurements. On the other hand, there have been physicists like E.A. Milne and Leigh Page who have attempted to base the special theory of relativity on clock readings alone without the use of rigid rods. The grounds invoked to justify these alternative physical interpretations are of the sort that would normally be called "metaphysical" rather than strictly scientific (e.g., Einstein introduces his concept of a rigid rod in the context of a Kantian-like set of distinctions, including "subjective" vs. "objective," "sensations" vs. "reason," etc.). Coming to the general theory of relativity, the diversity of physical interpretations appears even more marked because of the often radical divergence in mathematical formulations. Thus, for example, Einstein employs a generalized Riemannian geometry in which the spatial and temporal coordinates no longer possess any direct operational meaning, while Whitehead retains the semi-Euclidean geometry of the special

¹ I have deliberately ignored all differences in the mathematical formulation of the theory of relativity because such differences are generally irrelevant to the *mathematical* status of the distinction between space and time. In the case of the special theory of relativity, differences in mathematical formulation occur chiefly in matters of detail, with the Lorentz transformation equations and the formula for interval always remaining fundamental. In the case of the general theory of relativity, although differences in mathematical formulation are sometimes extremely important (e. g., the theories of Einstein and Whitehead), I believe that my conclusion still holds.

theory (without, of course, defining the spatial and temporal coordinates operationally—a procedure to which he objects on philosophical grounds). I conclude that there is no uniquely valid physical interpretation of the theory of relativity: not only is there nothing internal to the theory itself which necessitates any particular interpretation, but, in fact, each of the formally possible views as to the relation between space and time has actually been defended, often on the basis of an appropriate set of metaphysical principles.

Before turning to what I have called “metaphysical extrapolations” from the theory of relativity, I should like to emphasize the fact that metaphysical principles are already intimately involved in the mathematical formulations and physical interpretations discussed above—after all, the starting point of an extrapolation may be in part determined by one’s destination. The choice of a particular mathematical language or of a particular physical interpretation of certain mathematical symbols are both controlled by criteria, which, in view of their comprehensiveness and fundamental character, can reasonably be termed “metaphysical.” These same criteria will presumably also determine one’s conception of the broader ontological and epistemological significance of the theory of relativity. It should be clear, then, that any criticisms I should wish to make of a given metaphysical extrapolation from the theory of relativity would be based not on the fact that metaphysical criteria are being employed but rather on the failure to make these criteria sufficiently explicit or coherent.

As suggested above, the proposed metaphysical extrapolations from the theory of relativity are both numerous and highly diverse. These extrapolations may be classified in terms of their account of the relative priority of space and time: (1) time is assimilated to space (Weyl); (2) space is assimilated to time (E. A. Milne); (3) space and time are essentially equivalent in that neither has any meaning apart from the other (Minkowski); (4) space and time retain to some significant extent their distinctive features and their mutual independence (Whitehead).

Two sorts of metaphysical considerations are often adduced in connection with the problem of the relation between space and time in the theory of relativity: on the one hand, ontological con-

siderations involving the distinction between past, present and future, and the nature of causation; on the other hand, epistemological considerations involving the role of the observer and the general character of human perception. However, confusion arises when the theory of relativity is held to lead directly and unequivocally to a particular metaphysical extrapolation (usually presumed to be the only truly "scientific" one). The relations between mathematical physics and metaphysics are not that simple. Thus, it is sometimes said that the ontological structure of the universe is radically different in relativity physics from what it is in classical physics, in particular that the Laplacean conception, in which the entire history of the universe is alleged to be given *en bloc*, is replaced by a more dynamic and genuinely changing universe in relativity physics. This contrast is not, I believe, a very cogent one. In the first place, it would be a mistake to identify the absolute space of Newton's mechanics with the actual physical structure of the universe. Newton himself wished to distinguish absolute space very sharply from its actual physical contents. Thus, while it is true to say (and indeed Newton does say) that absolute space exists eternally, it by no means necessarily follows that the entire future history of the universe already exists—or, rather, always has existed. That this timeless view of reality may be entailed by Newton's own metaphysical conception of absolute space, namely, as the sensorium of an omniscient and omnipotent God, merely illustrates my fundamental point that such extrapolations of scientific concepts or theories require specifically metaphysical principles. (And, of course, we know that Laplace, with metaphysical principles different from Newton's, saw no need for any God at all in his universe.) Again, I see nothing in any of the re-interpretations of Newtonian mechanics in terms of relative space and time (Maxwell, Mach) which requires a timeless view of reality. Secondly, I find myself unconvinced by any attempt to rely upon a difference in the causal character of classical and relativity laws for the alleged ontological contrast between the universe of classical and that of relativity physics. As far as I can see, the laws of classical and of relativity physics are "causal" in exactly the same sense (both sets of laws contrast sharply in this respect with the laws of quantum physics). In

both classical and relativity physics every event is in principle completely determined, and therefore a complete knowledge of past and future is possible, provided only that one knows the relevant laws of force and a sufficiently inclusive set of initial conditions obtaining in the present. This similarity between classical and relativity physics is not at all contradicted by the fact that in the latter, for the prediction of a given event *E*, a certain infinite class of events contemporary with *E* (i.e., neither past nor future relative to *E*) is irrelevant. The surprising thing here is that according to classical physics these events would—or at least *might*—be relevant. However, the relations between the event *E* and those events in its past which *can* influence *E* are just as rigorously deterministic in relativity physics as are the analogous relations in classical physics.

Epistemological analyses of the theory of relativity have sometimes led to the view that only temporal relations are genuinely real and that spatial relations are to be construed as special kinds of temporal relations. In support of this view appeals to the deliverances of human perception are often encountered: positively, it is urged that we have a direct intuition of the passage of time (Bergson's *durée réelle*, Whitehead's duration); negatively, it is shown how the limitations of our perceptive faculties lead us mistakenly to assume that we can perceive an instantaneous spatial cross-section in nature or that we can really conceive absolute simultaneity. Such judgments as these naturally presuppose epistemological criteria setting forth the meaning of "reality" and the significance of perception for scientific knowledge. Failure to attend to the role—and the meaning and consistency—of these epistemological criteria can easily lead to such metaphysical extravagances as the notion that the theory of relativity "proves" that space is inherently unreal or contradictory or meaningless. The example of Whitehead is instructive in this regard. Although Whitehead is a philosopher who places an intuition of the unique metaphysical status of becoming at the very center of his philosophy, he never goes so far as to deny that the geometrical relations of an instantaneous space constitute genuine aspects of the natural world. In fact, according to Whitehead, there is nothing metaphysically compelling about the theory of relativity: both the

Newtonian concept of a single time series in nature and the Einsteinian concept of multiple time series are equally self-consistent (and equally consistent with his organic philosophy³)—the choice between these alternatives must be made on the basis of certain delicate experimental observations. Furthermore, when Whitehead comes to consider the general theory of relativity he rejects Einstein's fusion of space and matter and insists on a distinction between geometry and physics, such that geometry studies precisely those uniform spatial relations which do not enter into the flux of becoming (except as fixed conditions which must be met) and physics studies the laws of the flux itself. Whitehead's particular metaphysical extrapolation from the theory of relativity depends upon his analysis of perception, especially upon the notion that we possess a mode of perception that makes us aware of the bare existence of distant events "simultaneous" with the act of perception. In Whitehead's view, neither space nor time is the primitive datum in perception, but rather *extension*, which includes both spatial and temporal relations in an as yet undifferentiated form.⁴

My discussion has not been designed to argue for any specific physical interpretation of or metaphysical extrapolation from the theory of relativity; rather, I have been attempting to make an important general point about the relation between physics and metaphysics, which is that there is no unique metaphysical extrapolation from a physical theory (in part because there is no unique physical theory from which to extrapolate—but that is another story). It follows that in analyzing the epistemological and ontological significance of a physical theory we must be just as scrupulous in examining our own metaphysical commitments as we are in trying to understand the mathematical formulations and physical interpretations of the theory itself.

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³ Alfred North Whitehead, *Science and the Modern World* (New York, 1925), p. 176.

⁴ As early as *The Concept of Nature* (Cambridge, 1920), Whitehead speaks of his "thesis as to the assimilation of time and space and of their origin in extension" (p. 198).

BOOKS RECEIVED

SUMMARIES AND COMMENTS *

V. C. CHAPPELL AND STAFF

- ABRAMSON, HAROLD A. *Problems of Consciousness*. Transactions of the first Josiah Macy, Jr. Foundation Conference, 1950. New York: Corlies, Macy and Co., 1951. 200 pp. \$3.00. — A verbatim record of the first of five conferences on consciousness, held 1950-55, by the Josiah Macy, Jr. Foundation. The participants in the conference chiefly represent two groups: research workers in medicine and physiology, and psychologists. The approach is thus primarily scientific, although some philosophic questions are discussed. — R. H.
- ÅKESSON, ELOF. *Punkter Pa Ljuslinjen: Idéhistoriska Bidrag*. Lund: C. W. K. Gleerup Förlag, 1954. 319 pp. 12 kr. — A collection of essays in the history of ideas, including studies of Max Weber, Meinong, William James, and Royce, as well as of some Scandinavian thinkers of the recent past. — A. R.
- ALLPORT, FLOYD H. *Theories of Perception and the Concept of Structure: A Review and Critical Analysis with an Introduction to a Dynamic-Structural Theory of Behavior*. New York: John Wiley & Sons, 1955. xxii, 709 pp. \$8.00. — A comprehensive and rather technical critical summary of psychological theories of perception. The notion of "dynamic structure" underlies the critical discussion and serves, in the final chapter, as the central concept in a general theory of behavior. — R. H.
- ALLPORT, GORDON W. *Becoming: Basic Considerations for a Psychology of Personality*. New Haven: Yale University Press, 1955. ix, 106 pp. \$2.75. — The author urges that psychology take a more liberal approach "without sacrificing its gains." Psychology, in trying to be too "scientific," has imposed upon itself artificial limits, which have become barriers to an adequate study of individual personality, especially in its moral and religious aspects. Given originally as the Yale University Terry Lectures for 1954. — R. H.
- ARVON, HENRI. *Le Marxisme*. Collection Armand Colin, Section de Philosophie, No. 294. Paris: Librairie Armand Colin, 1955. 216 pp. 250 fr. — A short study of the historical circumstances to which Marxism responded, and of the systematic character of its dialectic.

* Books received will be acknowledged in this section by a brief resumé, report or criticism. Such acknowledgement does not preclude more detailed examination in a subsequent Critical Study. The summaries and comments will be written by the Managing Editor and his staff of Assistants, with the occasional help of others. A report has been contributed, in this issue, by Mr. Richard Rorty.

The strength of Marxism the author finds to lie in its comprehensiveness, its weakness in the contradiction which arises from its espousal of humanitarian goals and its rejection of individual freedom. — A. R.

BARNHART, JEFFERSON C. *Principles of the In-finite Philosophy*. New York: Philosophical Library, 1955. 68 pp. \$2.75. — An attempt to reconcile the finite and the infinite by postulating a cosmic cycle in which infinity realizes itself through finitude. — R. H.

BECKER, OSKAR. *Grundlagen der Mathematik in geschichtlicher Entwicklung*. Sammlung Orbis. Freiburg, München: Verlag Karl Alber, 1954. xi, 422 pp. DM 26. — An historical survey of the inquiry into the foundations of mathematics, presented in a series of original texts connected by the author's introductions and analyses. The source material, ranging from Egyptian surveyors' papyri to Lorenzen's "Konstruktive Begründung der Mathematik," is well chosen, and the author's commentaries are clear and illuminating. The selections are often shorter than might be desired, but the book is extremely useful as a summary and introductory survey. A short bibliography is included. — V. C. C.

BENOIT, HUBERT. *The Many Faces of Love: The Psychology of the Emotional and Sexual Life*, tr. by Philip Mairet. New York: Pantheon Books, 1955. 308 pp. \$5.00. — An examination of the various manifestations of love, in the form of a conversation between a psychiatrist and two young interlocutors. Each type of love—adoring, benevolent and erotic—follows its own laws and is subject to its own special obstacles. The emotional and sexual life of man is described in general terms as that of a being who is "not only biological but also metaphysical" in nature. The author's many insights into human emotional processes are complemented by counsels for avoiding and overcoming anxieties connected with love. — M. F.

BERDYAEV, NICHOLAS. *The Meaning of the Creative Act*, tr. by Donald A. Lowrie. New York: Harper & Bros., 1955. 344 pp. \$4.00. — The first English translation of one of Berdyaev's earliest works (first published in Russian in 1914), but one which he himself regarded as containing in germ the philosophical ideas fundamental to his later thinking. It begins by defining philosophy as "a creative activity," and goes on to develop the central notion of creativity with reference to Redemption, Being, Freedom, Sex, Morals, Society, Mysticism, etc. The writing itself is "creative" rather than "systematic"; though always stimulating, its enthusiasm sometimes makes the argument hard to follow. The translation is smooth and readable. — V. C. C.

BLAHA, OTTOKAR. *Logische Wirklichkeitsstruktur und personaler Seinsgrund: Zur Ontologie der Universalien, Sachverhalte und Seins-schichten*. Graz, Austria: Verlag Stiasny, 1955. 92 pp. 30 sch. — An attempt to discover the most fundamental "logical" (or "quid-dative") categories or principles of unity which lie at the basis and determine the structure of all reality. The three central principles or categories are "Wissen," "Wollen," and "Ichheit," from which it

is clear that reality has a personal basis and that its fundamental structure is that of a self or person. The presentation is highly compressed and often obscure, but there is much in it that is suggestive. — V. C. C.

BURY, J.-B. *The Idea of Progress: An Inquiry into its Origin and Growth*. Introduction by Charles A. Beard. New York: Dover Publications, 1955. xl, 357 pp. \$1.85 paper, \$3.95 cloth. — A photographic reprint of the 1932 American edition of Bury's classic study in intellectual history, in an attractive and inexpensive edition. — V. C. C.

CASSIRER, H. W. *Kant's First Critique: An Appraisal of the Permanent Significance of Kant's Critique of Pure Reason*. New York: Mac-Millan & Co., 1954. 367 pp. \$5.25. — A comprehensive study of the *Critique of Pure Reason*, viewed as a theory of knowledge. The author generally accepts Kant's formulation of epistemological problems, but is highly critical of the Kantian solutions. The discussion is largely kept to the text itself; references to other commentators are deliberately omitted. — R. H.

CHAN, WING-TSIT. *Historical Charts of Chinese Philosophy*. New Haven: Yale University Far Eastern Publications, 1955. 18 pp. — Intended to give "a graphic picture of the development, relationship and relative importance of Chinese philosophical schools," this booklet contains 7 charts outlining the Ancient, the Middle, the Modern, the Sung, the Yuan and Ming, the Ch'ing, and the contemporary periods. — C. M.

CHAUDHURY, PRVAS JIVAN. *The Philosophy of Science*. Foreword by E. A. Burt. Calcutta: Progressive Publishers, 1955. viii, 182 pp. 7 Rs., 12s. 6d. — The author tries to show that modern western science is coherent with past philosophical speculation, both western and eastern. Some of the book's 9 chapters have previously been published in American and Indian journals. — R. H.

COHN, GEORG. *Existentialismus und Rechtswissenschaft*. Basel: Kommissionsverlag Helbing & Lichtenhahn, 1955. 191 pp. — The author argues that legal judgments should be based upon the facts and realities of concrete situations, rather than be derived solely from preconceived statutes, and should be rendered by several judges cooperating with the interested parties and with various scientific experts. He calls his own attitude "existential"; one misses, however, any existential dialectic in his thinking. — L. H. E.

COTTON, P. HARRY. *Royce on the Human Self*. Cambridge: Harvard University Press, 1954. xiv, 347 pp. \$5.00. — This excellent study, which is both critical and constructive, is much broader in scope than its title might indicate. The human self is a central concept for Royce and its full discussion involves one in the whole body of his philosophy, as the author clearly recognizes. Few aspects of Royce's thought, indeed, escape his systematic examination; there are sections on Royce's logic, epistemology, metaphysics, ethics, and philosophy of religion, together with analyses of the self in time and in

society, and of the "community" idea. There is also an illuminating chapter on Royce's relations to Peirce and James. — V. C. C.

CRONAN, EDWARD P. *The Dignity of the Human Person*. New York: Philosophical Library, 1955. xvi, 207 pp. \$3.00. — An analysis of the source and value of human dignity, this book treats of the practical as well as the theoretical issues of individualism. The foreword is by Cardinal Spellman. — A. R.

DESCARTES, RENÉ. *The Philosophical Works of Descartes*, tr. by E. S. Haldane and G.R.T. Ross. 2 vols. New York: Dover Publications, 1955. 452, 380 pp. \$3.90 paper, \$7.90 cloth. — An exact reprint of the last corrected edition (1931) of the standard English translation of Descartes' Philosophical Works, long out of print. The Dover Press is to be commended for again making available, in compact and inexpensive form, this famous edition, indispensable to the English reader of Descartes. — V. C. C.

DE WITT, N. W. *Epicurus and his Philosophy*. Minneapolis: University of Minnesota Press, 1954. 388 pp. \$6.00. — "The aim of this study is three-fold: to organize the surviving data on the life of Epicurus into a consequential biographical sketch so as to throw some light upon the growth of his personality and the development of his philosophy; second, to present a new interpretation of his doctrines based upon less emended remains of his writings; and third, to win attention for the importance of Epicureanism as a bridge of transition from the classical philosophies of Greece to the Christian religion." Scholarly and readable, the work is highly critical of the accepted views of Zeller, Usener, Hicks and Bailey. — W. C.

DONCEEL, J. F., S. J. *Philosophical Psychology*. New York: Sheed and Ward, 1955. 363 pp. \$4.50. — A textbook of philosophical psychology with an enlightening change of emphasis. The author reexamines the Thomistic doctrines of speculative first principles, the function of the agent intellect in the knowing process, and the relation of soul to body. While clearly distinguishing his position from that of Kant's, the author often finds himself at one with Kant in combating the extremes of Cartesianism and Empiricism. — M. F.

DULLES, A. R., S. J., J. M. DEMENSKÉ, S. J., and R. J. O'CONNELL, S. J. *Introductory Metaphysics: A Course Combining Matter Treated in Ontology, Cosmology, and Natural Theology*. New York: Sheed and Ward, 1955. ix, 345 pp. \$4.50. — An elementary textbook in Thomistic Metaphysics designed for use in Catholic colleges and seminaries. Strictly traditional in content and terminology, the book attempts nevertheless to argue its points in ways convincing to beginning students. — V. C. C.

ECCLES, J. C. *The Neurophysiological Basis of Mind: The Principles of Neurophysiology*. Oxford. Clarendon Press, 1953. 314 pp. 25s. — A highly technical report on recent physiological research by an eminent scientist. The philosophical implications for consciousness, perception, free-will, and memory are treated briefly in the final chapter. The author maintains that a mind-brain dualism and interactionism

is the only fruitful working hypothesis, and, in opposition to some recent philosophers, that its discussion is scientifically worthwhile. — W.C.

GENTILE, GIOVANNI. *Rosmini e Gioberti: Saggio Storico sulla Filosofia Italiana del Risorgimento*. 2nd Revised Ed. A volume in the *Opera Complete di Giovanni Gentile*. Firenze: G. L. Sansoni, 1955. 326 pp. 2000 L. — The author attempts, in this study (first published in 1898) of the controversy between Rosmini and Gioberti, to reconcile the two positions. He agrees with Rosmini that intuition is not thought, but he finds Gioberti correct in insisting that it is the condition for thought. Besides an exposition and criticism of the epistemologies of Rosmini and Gioberti, the book includes a general historical chapter on Italian philosophy from 1815 to 1830. — A. R.

GOODMAN, NELSON. *Fact, Fiction, and Forecast*, Cambridge: Harvard University Press, 1955. 126 pp. \$3.00. — The first chapter of this short book consists of Goodman's well-known article of 1946 on "The Problem of Counterfactual Conditionals." The next two chapters present persuasive arguments showing that the problems of counterfactuals, nomologicality, dispositional predicates, and the status of the possible are aspects of a single problem—that of the rules of inductive validity. The final chapter presents criteria for the projectibility of statements (i.e., their lawlikeness, and hence their fitness to be used as empirical hypotheses). These criteria, based on the view that our past linguistic behavior determines the structure of our present inductions, are presented in a manner which is perhaps too sketchy and informal to inspire complete confidence. — R. R.

HAWKINS, D. J. B. *Being and Becoming: An Essay Towards a Critical Metaphysic*. New York: Sheed and Ward, 1954. xvii, 176 pp. \$3.00. — The author attempts "a critical rethinking of the metaphysics of the Aristotelian and Thomistic tradition." There is no single argument or theme, but rather a series of fairly distinct though interrelated treatments of the main topics of Thomistic metaphysics—being, the thinking of being, analogy, substance, causation, etc. Father Hawkins tries always, on the basis of certain traditional presuppositions, to think through a problem in his own way, often in the light of contemporary developments in metaphysical theory, and to express his results in clear and simple language, refreshingly free from jargon. — V. C. C.

HOBENSEE, H. *The Augustinian Concept of Authority*. Folia, Supplement II. New York, 1954. 79 pp. \$2.00. — The second in a series of scholarly monographs designed to collect and organize source material for the interpretation of the thought of St. Augustine, this work contains a list of the occurrences of the word *auctoritas* in Augustine's writings, an anthology of representative passages in which it is discussed, and a number of indices. — V. C. C.

JOHANN, ROBERT O., S. J. *The Meaning of Love: An Essay Towards a Metaphysics of Intersubjectivity*. Westminster, Md.: Newman Press,

1955. pp. 133. — An attempt to unite the inwardness of the existentialists with a Thomistic teleological realism. Because man is a creature in nature, with ends external to himself, he has desires which can only be fulfilled by appropriating the goods of the world (*bonum per accidens*); because he is also a person, whose ends are internal to himself, who must communicate as well as appropriate, he must seek his perfection inwardly (*bonum per se*). These two strains are necessary ingredients in man, and in him they find their reconciliation. The first chapter was first printed in this *Review*, VIII, pp. 225-45. — A. R.

JONAS, HANS. *Gnosis und spätantiker Geist: Erster Teil, Die mythologische Gnosis*; zweiter Teil, erste Hälfte, *Von der Mythologie zur mystischen Philosophie*. 2 vols. Göttingen: Vanderhock und Ruprecht, 1954. 375, 222 pp. DM. 28, DM. 18. — The first of these two volumes is a second edition of the first part of Jonas' comprehensive scholarly study of Gnosticism, first published in 1934. Except for minor corrections the first edition has been left unrevised. The second volume carries the study up to the third century A.D. A final volume completing the second part is promised for the near future. — R. H.

KLAUSEN, SVERRE. *Kants Ethik und ihre Kritiker*. Avhandlinger Utgitt Av Det Norske Videnskaps-Akademi i Oslo, II; Hist.-Filos. Klasse 1954, No. 2. Oslo: I Kommissjon Hos Jacob Dybwad, 1954. 64 pp. 6 kr. — A compact defense of Kant's ethics against a variety of recent criticisms. The critics are selected for the purpose of surveying and answering the major difficulties confronting a student of Kant's ethical theory as a whole. The defense stresses the primacy of practical reason and "the facticity of the absolute imperative of duty." — R. H.

KLUBERTANZ, GEORGE P., S. J. *Introduction to the Philosophy of Being*. New York: Appleton-Century-Crofts, 1955. xiii, 300 pp. \$3.00. — Though intended as an introductory textbook of Thomistic metaphysics, this work offers a fairly detailed treatment of a number of important problems, presented in systematic and well-ordered fashion. Father Klubertanz rejects the a priori procedure of some recent Thomists, and endeavors to reconstruct the Thomistic synthesis by beginning with immediate sense experience. This and other "departures from systematized Thomism" give the book a certain originality, and raise it somewhat above the usual textbook level. — V. C. C.

LEWIS, EWART. *Medieval Political Ideas*. 2 Vols. New York: Alfred A. Knopf, 1954. xii, 661 pp. \$12.50. — Contains a wide selection from writings on Medieval political theory (most of them not otherwise available) during the period from the investiture struggle to the end of the 15th century. The text is organized in terms of eight basic topics of political theory and is about equally divided between the selections themselves and the interpretative essays which introduce each group. — R. H.

- MANDELBAUM, MAURICE. *The Phenomenology of Moral Experience*. Glencoe, Ill.: The Free Press, 1955. 338 pp. \$5.00. — The author adopts a phenomenalist method to educe, not the content of universally valid moral judgments, but "the generic characteristics of all moral experience." Interested in describing rather than prescribing the standards of judgment, he finds that the common ground lies in a contextual "fittingness." The possibility of validating moral judgment is maintained by the enunciation of principles of the primacy of facts, of universality, and of ultimacy or obligation. — A. R.
- MARC, ANDRÉ, S. J. *Dialectique de l'Agir*. Problèmes et Doctrines, No. 6. Paris: E. Vitte, n.d. 585 pp. 2400 fr. — A study of the conditions necessary for the freedom of man's action, this work concludes that the source of meaningfulness lies in man's relation to God, and in man's search for His will. — A. R.
- MEYERHOFF, HANS. *Time in Literature*. Berkeley: University of California Press, 1955. xiv, 160 pp. \$3.50. — An analysis of the treatment of time in literature and its relationship to science and philosophy. Since the consciousness of time seems to the author to have greatly increased in contemporary culture, he refers primarily to such twentieth-century authors as Proust, Joyce and Mann. — A. R.
- MONTAGU, M. F. ASHLEY. *The Direction of Human Development: Biological and Social Bases*. New York: Harper & Bros., 1955. ix, 404 pp. \$5.00. — Contains the author's lectures on the socialization process, given in the past ten years, with the addition of some recent research results. Genuine love, he argues, is the best solution to most if not all human problems. He is aware of the danger of oversimplification, but believes the importance of the subject warrants its general presentation apart from much of the supporting evidence. — R. H.
- NIEBUHR, REINHOLD. *The Self and the Dramas of History*. New York: Charles Scribner's Sons, 1955. ix, 246 pp. \$3.75. — Inspired by Martin Buber's *I and Thou*, the author holds that the self is neither mind nor body, but rather the "I" which engages in dialogues with itself, with its fellows, and with God. Philosophers and scientists are criticized for their "reductionism" with regard to the self, and the Hellenic tendency to view history and the self as "structured artifacts" is rejected. The author calls for renewed allegiance to the Hebraic heritage of Western culture, and for a more religious view of the self and its role in history. He is perhaps less explicit than one might wish concerning the positive contributions which such a view could make. — C. M.
- OSBORNE, HAROLD. *Aesthetics and Criticism*. New York: Philosophical Library, 1955. 341 pp. \$6.00. — The author sees two functions for the critic: comparative evaluations of works of art and the stimulation of appreciation. Aesthetics must therefore concern itself not only with finding the universal and exhaustive criteria which distinguish good from bad art, but also with analyzing the psychology

of appreciation; it must supplement a study of the objective qualities of beauty with one of the subjective receptivity of beauty. The book is critical as well as constructive, and includes acute discussions of previous theories of aesthetics, and the special problems of literature, music and the plastic arts. — A. R.

PATRICK, CATHARINE. *What is Creative Thinking?* New York: Philosophical Library, 1955. xi, 210 pp. \$3.00. — Summarizes, with many quotations, a large body of recent psychological writing about the process of mental discovery and invention, and offers some practical suggestions for encouraging creative thinking. — R. H.

RÄBER, THOMAS. *Das Dasein in der "Philosophie" von Karl Jaspers: Eine Untersuchung im Hinblick auf die Einheit und Realität der Welt im existentiellen Denken.* Bern: Francke Verlag, 1955. 204 pp. 14 fr. — There are two main meanings of "Dasein" in Jaspers' *Philosophie* (1932, 2nd ed. 1948): (a) the "that" of whatever can be encountered empirically, and (b) the immediateness, the "there" of subjects. The author attempts to show the ultimate connection between these two meanings of "Dasein," and how, for Jaspers, "Dasein" is the basis for the realization of being. The book displays an excellent command of Jaspers' works and of the philosophical problematics for which Jaspers is significant. — L. H. E.

ROSENBERG, MAX. *Introduction to Philosophy.* New York: Philosophical Library, 1955. 502 pp. \$6.00. — "An invitation addressed to the average reader to learn about, and to join in, the eternal quest." The author deals, in a series of informal, non-technical chapters, with such topics as reality, life, death, God, man, beauty, and the good life. — W. C.

SALOMON, ALBERT. *The Tyranny of Progress: Reflections on the Origins of Sociology.* New York: Noonday Press, 1955. 115 pp. \$3.00. — An illuminating historical essay describing the origins of modern sociology and the theory and practice of the "total State." The author's well-selected material is taken primarily from the works of the French sociologists of the nineteenth century. The book's main contribution consists in showing the relevance to American society of the prophecies of the French "Messianic Bohemians," who emphasized the need for cooperation between labor and entrepreneurs. — C. M.

SMITH, HUSTON. *The Purposes of Higher Education.* New York: Harper & Bros., 1955. xix, 218 pp. \$3.50. — This book originated from discussions of a Washington University Committee, formed to define the aims of liberal education. Recognizing the participants' diversity in principles, the author derives, nevertheless, a common result: the end of education is found in the enlargement of human freedom, defined as "the spontaneous expression of an authentic self." — R. H.

SMITH, RAYMOND, O. P. *Whitehead's Concept of Logic.* Thomistic Studies, No. 6. Westminster, Md.: Newman Press, 1953. ix, 179 pp. \$3.00. — An evaluation of Whitehead's philosophy of logic, and in

particular his criticism of Aristotelian logic. The main conclusion is Whitehead "misunderstood the scope and purpose of the traditional logic." — R. H.

ROSMINI, ANTONIO. *Anthologie Philosophique*. Textes choisis avec notice biographique et notes bibliographiques par les soins de G. Pusineri, D. Morando, G. Rossi, M. F. Sciacca, tr. by Dom Lucien David et Dom Lucien Châmbat. Problèmes et Doctrines, No. 8. Lyons: E. Vitte, 1954. 508 pp. 2400 fr. — An anthology of representative works of Rosmini, comprising his theory of knowledge, ontology, natural theology, and ethics. There is a short biography and a thorough bibliography. — A. R.

SPINOZA, BENEDICT DE. *The Chief Works of Spinoza*, tr. by R. H. M. Elwes. 2 Vols. New York: Dover Publications, 1955. 432, 448 pp. \$3.00. — An unabridged republication of the Elwes translation of Spinoza's works, made in 1883, but still highly regarded for its accuracy and lucidity. The present edition, compact and yet clearly presented, includes a bibliographical note by Francesco Cordasco. — V. C. C.

TALLET, JORGE. *El Sér Absoluto*. Mexico: Ediciones Humanismo, 1955. 107 pp. — An attempt to deal with "the fundamental philosophical problem of the Absolute" in an original way. Absolute Being is interpreted as "the act of total existence," and is taken to include all that is or can be, as well as what "exists" negatively or is not. — V. C. C.

THOMPSON, SAMUEL M. *A Modern Philosophy of Religion*. Chicago: Henry Regnery, 1955. x, 601 pp. \$5.75. — A comprehensive, carefully argued and clearly written statement and defense of philosophical theism. The author is concerned with religion itself as an object of philosophical inquiry, but is more interested in the insights into the natures of man, God, and the world, which a religious, or theistic, viewpoint is able to provide. He offers an interesting reformulation and defense of the cosmological argument for the existence of God. — V. C. C.

VATAI, LASZLO. *Man and His Tragic Life: Based on Dostoevsky*. New York: Philosophical Library, 1954. viii, 210 pp. \$3.75. — The author seeks, through an examination of the characters of Dostoevsky, to interpret the nature of man and his fate. A "Christian existentialist," he sees man's life as essentially tragic, torn between the "dialectical opposites," God and nature. Man's only hope for harmony and synthesis lies in the total "surrender of his autonomy to the demands of God." Sometimes obscure in meaning, the book contains nevertheless a number of interesting suggestions. — V. C. C.

VIVAS, ELISEO. *Creation and Discovery: Essays in Criticism and Aesthetics*. New York: Noonday Press, 1955. xiv, 306 pp. \$5.00. — A collection of previously printed but newly revised essays. The author holds that "art both creates and discovers values and meanings," because it reveals its object both in itself and through itself, because it is, as it were, an opaque sign. Art is semi-autonomous; the world of art organizes experience, yet does not find its valida-

tion in it. There are some essays in and about literary criticism, but the author is primarily concerned with the "manner in which art informs culture," and only secondarily with works of art themselves. The book is important and illuminating. — A. R.

WEISS, PAUL. *Reality: A Selection*, tr. by Yehuda Landau. Jerusalem: Magnes Press, 1955. 83 pp. — Selected chapters from the first half of *Reality* (published in 1938), translated into Hebrew. Includes an introduction, especially written for this edition, which was also published in this *Review*, VII, pp. 558-62. — A. R.

WHITMAN, ARDIS. *A New Image of Man*. New York: Appleton-Century-Crofts, 1955. xi, 260 pp. \$3.50 — Written for a popular audience, this book extols the virtues of individuality. — A. R.

WHYTE, LANCELOT LAW. *Accent on Form. An Anticipation of the Science of Tomorrow*. World Perspectives, Vol. II. New York: Harper & Bros., 1955. xi, 198 pp. \$2.75. — Offers, in an informal and somewhat undisciplined and repetitive manner, suggestions for answering such questions as: What is form? What kind of atomism will future scientific endeavour emphasize? Are there further, as yet unexplored and unexploited possibilities of evolution? How should a biologist or physicist account for man's creative abilities? etc. — C. M.

ZUBECK, J. P. and SOLBERG, P. A. *Human Development*. McGraw Series in Psychology. New York: McGraw-Hill, 1954. vii, 476 pp. \$6.00. — A text, primarily behavioristic in approach, covering the psychological and physiological development of the human organism. Its analyses of ontogenetic change are supplemented with brief phylogenetic descriptions. — A. R.

Bill of Rights Reader: Leading Constitutional Cases, compiled and ed. by Milton R. Konvitz. Ithaca, N. Y.: Cornell University Press, 1954. xix, 591 pp. \$6.50. — Presents, with interpretative comments, the concurring and dissenting opinions in 71 recent crucial court decisions. All but seven are supreme court cases, relating to constitutional provisions for civil and political liberties. — R. H.

Religions of the Ancient Near East: Sumero-Akkadian Religious Texts and Ugaritic Epics, ed. with an introduction by Isaac Mendelsohn. The Library of Religion, Vol. IV. New York: Liberal Arts Press, 1955. xxix, 284 pp. \$3.00 cloth, \$1.75 paper. — A collection of texts, otherwise not easily accessible, indispensable to students of comparative religion and comparative literature, reprinted from the Princeton *Ancient Near Eastern Texts Relating to the Old Testament*. Includes hymns, prayers, myths, epics, etc. Each text is provided with a brief introduction; a short bibliography and index to Biblical references is also included. — C. M.

The St. John's Program: A Report. Annapolis, Md.: St. John's College Press, 1955. xvi, 139 pp. — A description and critical estimate, by faculty and alumni, of the famous St. John's New Program in the liberal arts, covering the first 17 years of its operation. — W. C.

ANNOUNCEMENTS

A Josiah Royce Centenary celebration, sponsored jointly by the Department of Philosophy of the University of California at Los Angeles and the Foundation for Idealistic Philosophy, was held in Los Angeles on July 31, 1955. The program included remarks on the Josiah Royce Centenary by Daniel S. Robinson and an address on "Royce's Synoptic Vision" by Professor Jacob Loewenberg.

The new journal for ancient philosophy to be edited by D. J. Allan and J. B. Skemp, whose publication was previously announced in this *Review*, will be called *Phronesis*, and will be published by the Koninklijke VanGorcum & Comp. N. V. of Assen, the Netherlands. Subscriptions may be arranged through the publisher at a cost of \$3.00 (£1. 1s.) per year. The first number is expected to appear in November, 1955.

The Institut International de Philosophie Politique in Paris will sponsor the publication of a new French journal in the field of political philosophy, the *Annales de Philosophie Politique*. One volume each year is planned, to consist of a number of studies on a particular question or topic by specialists from many nations. Professor Georges Davy of the Sorbonne and Professor Raymond Polin of the Faculté des Lettres de Lille are the Director and Secretary, respectively, of the publication committee.

Another new periodical is *Scienza Nuova*, an international journal of reviews and abstracts of studies in the psychological and humanistic sciences, which will be published by the Lincombe Lodge Research Library, Boars Hill, Oxford, and edited by Marcel P. Hornik, Tessa Hornik, and Steven E. Smith. The new journal's aim is to "re-establish a common ground between the representatives of the social, the psychological and the humanistic sciences," a ground which has been largely lost through modern academic specialization. Subscription and other information may be obtained from the editors.

The Department of Philosophy of Yale University announces the appointment of the following Visiting Lecturers for the academic year 1955-56: Professor Julian Marias of Madrid, Robert N. Beck of Clark University, Nathaniel Lawrence, Arthur Pap, and Roderick N. Smart.

Robert S. Hartman of Ohio State University has been appointed Visiting Professor of Philosophy at the Massachusetts Institute of Technology for 1955-56.

Barnes & Noble has republished many important out-of-print scholarly works in the field of philosophy, such as:

SIR CHARLES ELIOT

HINDUISM AND BUDDHISM: *An Historical Sketch.*

What are Hinduism and Buddhism? What do they teach about gods and men and the destinies of the soul? What ideals do they hold up and is their teaching of value or at least of interest to the West? These are the questions this basic work answers by offering a wide survey of the subject. Listed in Shaw's "A List of Books for College Libraries."

3 vols. \$17.50

HANS Vaihinger

THE PHILOSOPHY OF 'AS IF' — *A System of the Theoretical, Practical and Religious Fictions of Mankind.* Trans. by C. K. Ogden.

"This impressive work has had a remarkable history. ... It contains such a wealth of material and of stimulus that no one should henceforth presume to discuss the problems of logic and epistemology without having read and digested it."—Dr. F. C. S. Schiller in *Mind*.

\$6.00

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